

Chronic Pain Initiative

Report of the Chair of the Chronic Pain Panels

August 2000

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*Prepared by Brock Smith, Chair, Chronic Pain Panels
for the Ontario Workplace Safety and Insurance Board*



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Consultation Report –

Summary of the Chronic Pain Initiative's April - June 2000 Consultation Results

I. SUMMARY AND RECOMMENDATIONS

Background

Section 14 of the *Workplace Safety and Insurance Act, 1997* (*the Act*) permits the prescription of "limits and exclusions" to chronic pain benefits. This was founded on the view that chronic pain disability was caused in large part by factors external to the workplace injury. Also, there was widespread concern about the growth in compensation costs.

In June 1997, the Workplace Safety and Insurance Board proposed a new approach for chronic pain compensation that was based on the model introduced by the Nova Scotia Workers' Compensation Board. The proposal was to enroll workers in a pain management program if they had not returned to work after the "usual recovery time". Benefits eligibility would cease after a four-week program and no worker would be eligible for the program after 12 months from the date of injury.

As result of public consultation during the summer of 1997 the government decided not to enact Section 14 on January 1, 1998 and asked the Board to undertake an independent study and report back. In early 1998 the Board announced the creation of two advisory panels, one to assemble the scientific evidence on the cause and treatment of chronic pain (the scientific panel) and one to recommend policy options based on the scientific evidence (the policy panel).

A draft of the scientific panel's report was distributed in August 1999 and, after peer review, the final report was published in February 2000. A detailed summary of the panel's findings appears in Chapter V of this report. Chapter VI provides a layperson's summary of the panel's findings regarding the causes of chronic pain disability.

The scientific panel's report is likely the most thorough scientific review of chronic pain literature in existence anywhere. But the results, with respect to aetiology (causation), are far from conclusive. In essence, it found some factors, external to the workplace injury, that may render an individual more likely to experience chronic pain in the event of an injury. It also found factors that may exacerbate the length and severity of the

chronic pain. However, these factors cannot be shown to be the causes of the pain. The report also provides an exhaustive review of recent literature on the effectiveness of various treatments.

The policy panel, consisting of employer, worker and medical representatives, began work in April 1999. In addition to examining the scientific panel's report, it also considered legal and financial issues and held a number of public consultation sessions. Its report was released in February 2000.

The panel reached consensus on recommendations for prevention and management of chronic pain as well as for compensation during the first 12 months after injury. However, it could not reach a consensus on compensation after 12 months and instead presented two options. Option A would provide continuing benefits, if warranted, and option B would limit chronic pain compensation to 12 months from the date of injury. The policy panel's report also included updated compensation cost projections which are lower than those relied on in the *New Directions for Workers' Compensation Reform* (the Jackson Report).

This report was sent out for a period of public consultation that ended in June 2000. The results show a heavy contingent of injured workers and employee representatives supporting option A, and some employer associations and employers supporting option B.

On the issue of compensation, the arguments advanced by the supporters of option B are:

- The *Act* mandates that benefits be limited
- Option A would be financially irresponsible and there is some evidence to show that compensation availability can influence the duration of chronic pain claims
- The scientific panel's report shows that chronic pain is a multi-factorial problem that can be influenced by lifestyle

Nova Scotia

In January 2000, the Nova Scotia Workers' Compensation Appeals Tribunal overturned a number of WCB chronic pain awards on the grounds that the limitation of benefits discriminates against a class of workers in violation of the Charter of Rights. At the time of writing, these decisions are under appeal.

Discussion

As noted above, the initial push for limits on chronic pain compensation arose from two factors. First, there was the perception that the cost of compensating chronic pain was rising at an alarming rate. Second, there was a widely held view that chronic pain was

more psychological than physical in nature and was caused, in large part, by factors external to the actual workplace injury.

Claims administration trends, new actuarial assumptions and extensive scientific review have altered this picture according to the data reviewed by the policy panel. The annual number of chronic pain disability claims fell from almost 1500 in 1990 to fewer than 100 in 1997. Under revised actuarial assumptions, the cost to the WSIB of providing benefits to 2014 falls to under \$100 million compared to the \$1.4 billion projection in the Jackson Report. Scientific review has yielded a plethora of data but no conclusive evidence with respect to causation. However, it appears that a much better understanding of treatment methods is being developed.

It would be difficult to support, on the basis of the existing scientific evidence, any limitation of benefits for chronic pain disability as envisaged by section 14 of the *Act*.

However, there still remains the issue of cost. While the projections show a major decline, the cost of chronic pain disability is still significant, not only in dollar terms but also in the suffering it entails. With regard to a containment strategy, the scientific panel's review points in the direction of better early treatment. This is an area in which progress is being made in identifying effective treatment modalities.

Recommendations

It is recommended that:

- (1) The *Workplace Safety and Insurance Act* and the Workplace Safety and Insurance Board treat and underwrite chronic pain as they would any other workplace injury or illness.
- (2) The Board require that an internal group investigate and report on implementing the policy panel's consensus recommendations for more effective treatment, management and return to work strategies and a revised approach to rating permanent impairment.
- (3) The Board conduct a review in five years to assess the effectiveness of the prevention and management strategies that are implemented, new scientific evidence about the work-relatedness of chronic pain and developments in the courts concerning workers' compensation law.
- (4) The Board support continued research into the treatment and management of chronic pain.

II. BACKGROUND TO THE FORMATION OF THE PANELS

This is a brief overview of the events that led to the creation of the panels.

Prior to 1987 the Workers' Compensation Board¹ did not compensate for disability resulting from chronic pain. This was because of apparent skepticism regarding the medical legitimacy of such disabilities and an interpretation of the governing legislation which held that even if such legitimacy could be established, its cause was deemed unrelated to the work injury.

In its well known 1987 Decision No. 915 the Ontario Workers' Compensation Appeal Tribunal (WCAT) determined that part of a worker's permanent disability was legitimately attributable to what it called "psychogenic pain disorder" and that the Act did permit attribution of causation to the work injury. Later the same year the WCB adopted a compensation policy for chronic pain disorder, which, with some modifications, remains in force to this day.

Following Ontario's lead, in the early 90's a number of other provincial boards adopted specific policies for dealing with chronic pain, notably British Columbia, Alberta, and Newfoundland, all of which bore a rough similarity to the Ontario model. The other provincial boards did not adopt explicit chronic pain compensation policies but rather claim to deal with individual cases "on their merits", the exception being New Brunswick where chronic pain disability is in essence not compensable. In 1996 Nova Scotia adopted a significantly new approach which provided financially-capped and time-limited assistance for pain management services.

As chronic pain disability compensation policy evolved during this period a number of problematic issues became apparent. These related to:

- the degree of subjectivity in determining the amount of disability
- alleged insensitivity and lack of understanding amongst adjudicators

¹ Now the Workplace Safety and Insurance Board

- medical disagreements concerning the level of disability and appropriate treatments for individual patients
- the relationship of the pain disability to the workplace injury
- the view, held by some, that chronic pain disability was directly related to the availability of compensation
- poor return to work practices and
- concern about the long run financial implications of compensating chronic pain disability

In 1996, the Ontario Government published its white paper on workers' compensation, *New Directions for Workers' Compensation Reform* (the Jackson Report). The report dealt with chronic pain in the context of "refocusing" the system more strictly towards a workplace accident insurance plan.

It stated that:

...[a] key problem is that entitlement to compensation under the Act has expanded beyond the boundaries of a workplace accident insurance plan... The difficulties arise in cases where it is argued that the injury is the result of a series of repeated actions over time, a result of exposure to particular toxins, or a result of multiple factors. In these cases the role of employment in causing the injury and the disability is less clear... (p. 28).

The report cites chronic pain as an example of this:

The WCB compensates chronic pain on the basis that it is a consequence of a compensable injury. Chronic pain is defined as pain that persists beyond the usual healing time for an injury and is a complex phenomenon without any direct evident physical cause. It is therefore inherently problematic for a system of insurance against workplace injuries, since there can never be assurance that, in the presence of a broad range of other factors, the employment is a sufficient cause of this disability (p. 29).

In the context of recommending that boundaries be placed around compensation for "multiple cause" disabilities, the report recommended that Ontario should limit compensation for chronic pain.

Section 13 of the *Workplace Safety and Insurance Act, 1997* contains the general compensation provisions:

- 13(1) A worker who sustains a personal injury by accident arising out of and in the course of his or her employment is entitled to benefits under the insurance plan.

The *Act* also devotes a separate section to chronic pain.

14. (1) A worker is entitled to benefits under the insurance plan for chronic pain as defined in the regulations but only in such circumstances as may be prescribed.
- (2) The benefits to which the worker is entitled for chronic pain are subject to such limits and exclusions as may be prescribed.

In June 1997 the then President of the WCB sent a letter to stakeholders outlining a new approach to chronic pain compensation in line with *Bill 99*. Patterned after the Nova Scotia model, the proposal was to enroll workers in a pain management program if they had not returned to work after the "usual recovery time" for their injury. After the four-week program they would not be eligible for further health care or loss of earning benefits. No worker would be eligible for the program after 12 months from the date of injury.

The bill and this proposal, put out for public consultation during the summer of 1997, met with criticism from the medical community, most notably from Dr. R. W. Teasell. His paper, "The Denial of Chronic Pain" cited new scientific studies indicating that chronic pain may well be an organic rather than a psychological phenomenon; that it usually follows an injury; and that healing times vary greatly amongst individuals.

This and other submissions prompted the Ontario government not to enact section 14 on January 1, 1998, and to ask the Board to undertake an independent study and report back.

In early 1998 the Workplace Safety and Insurance Board (WSIB) announced the creation of the two panels under terms of reference as outlined below.

III. TERMS OF REFERENCE²

Title

Chronic Pain: Causation, Prevention, Compensation, Treatment and Management

General Objective

To assemble and analyze scientific evidence on the causation, prevention, treatment and management of chronic pain; and recommend evidence based policies and strategies related to the prevention, compensation, and management of chronic pain disability.

Specific Objectives

- I (A) To define chronic pain.
- (B) To assemble and analyze scientific evidence on:
 - (i) the etiology (including causes and risk factors) of chronic pain; with a focus on the role of physical injuries;
 - (ii) the treatment efficacy of chronic pain (including timing, duration, modality and prognosis); and
 - (iii) the efficacy of disability management related to chronic pain.
- II (A) Based on evidence, to recommend policies and strategies on:
 - (i) prevention of work-related chronic pain; including education of workers, employers and health care providers;

- (ii) compensation of work-related chronic pain;
 - (iii) management of work-related chronic pain disability, including education of workers, employers and health care providers.
- (B) To assess the impact and efficacy of the recommended policies and strategies.

Background

1. Since 1986, the Board has provided compensation to Ontario workers with work-related chronic pain disability.
2. Bill 99, the bill to reform workers' compensation in Ontario, contained a proposed limit on the compensation of chronic pain. Section 13³ of the bill states:
 - (1) A worker is entitled to benefits under the insurance plan for chronic pain as defined in the regulations but only in such circumstances as may be prescribed.
 - (2) The benefits to which the worker is entitled for chronic pain are subject to such limits and exclusions as may be prescribed.
3. Bill 99 underwent public hearings in June and July of 1997. During the public hearings, some representatives from the scientific and medical community expressed concerns with respect to chronic pain entitlement. It was argued that there is important emerging evidence of a stronger link between chronic pain and a physical injury. In response to these concerns, the government delayed the proclamation of Section 13 of the Bill.
4. Instead, the government announced that the Workers' Compensation Board should undertake an independent scientific study into chronic pain and report back to the government by July 1, 1999. Until further action is undertaken following the review, chronic pain will continue to be compensated.

Process

The Board will appoint a chairperson to guide the entire process.

The process will comprise two phases:

- | | |
|--------------------------|--|
| Related to Objective I: | Scientific investigations, including defining chronic pain, assembling scientific literature and analysis of the literature. |
| Related to Objective II: | Development of policy and strategy recommendations and assessment of the impact and efficacy of these recommendations. |

³

Now section 14 in the *Workplace Safety and Insurance Act*

Each phase will be conducted by a panel of experts. Members of the panels will be selected from individuals nominated by stakeholders and scientists in the field of chronic pain research and treatment. In addition, another group of those nominated will act as reviewers of the scientific and policy reports (see section on Products).

During each phase, issues related to etiology, prevention, treatment, compensation and disability management will be addressed.

The process will be completed by June 30, 1999. [This deadline was extended.]

Products

Two separate reports will be produced upon the completion of each phase of the process. They are:

1. A scientific report on the etiology (including risk factors identification), treatment (including prognosis), and management of chronic pain.
2. A report on policy recommendations which will form the basis of the Board's new regulation on chronic pain, as required by the *Act*. This report will also contain proposed designs of strategies for the prevention, treatment, education and management of work-related chronic pain disability as well as foreseeable impacts of the recommended policies and strategies.

IV. PUBLIC PERCEPTIONS

Before reporting on the results of the panels' work, as chair, I thought it would be useful to touch briefly on the subject of public perception; particularly because these perceptions appear to be changing as the issue of pain itself is receiving increasing media attention.

If an organic cause for all chronic pain could be identified and the intensity of the pain could be accurately measured there would be no controversy. But in the case of chronic pain, at least up until now, medical practitioners have been unable to uncover organic causes or mechanically measure pain intensity levels. Much rests on the patients' word and, as noted earlier, until the last decade this was generally not considered sufficient to establish a compensable disability.

A sea change in workers' compensation philosophy took place during the 1980's and it helped to shape new perceptions of chronic pain compensation. Historically, workers' compensation schemes focused on compensation of an "injury" (an objectively identifiable trauma) rather than a "disability" (the result of the trauma). That was the infamous "meat chart" approach epitomized by the classic, if apocryphal, cases of the doorman and the concert pianist receiving identical compensation for the loss of a finger.

As change spread through the system in the 1980's, increasing attention was paid to the disability implications of the injury for the worker, i.e. future loss of earnings. This did not automatically lead to compensation for chronic pain disability, but it opened the door.

Whether or not it was a myth, for a long time there was an apparent widespread public belief that pain exaggeration or outright malingering was commonplace when disability compensation was available. This was satirized in the Lemmon / Matthau film, *The Fortune Cookie* (MGM, 1966).

This stereotype began to erode in the 1980's, perhaps in part because of the publicity surrounding a widely reported condition involving debilitating symptoms not

accompanied by organic pathology - chronic fatigue syndrome. In any event, there has apparently been a gradual build up to the acceptance of chronic pain as a "real" condition that may even have a heretofore-undetected organic cause and is more widespread than commonly thought. In the last few years, these new perceptions have begun to crystallize in the media.

A March 1999 article in *Business Week* summed up this change in thinking.

Suddenly a field that had been a scientific backwater became hot... Along with new treatments a new way of thinking about pain is emerging. Researchers think pain should be treated as a disease in itself, divorced from the underlying cause such as ... a sprained back.

The August 1998 issue of *Scientific American* emphasized the difficulties of connecting chronic pain to an organic cause. An article entitled "Low Back Pain" estimates that up to 80 per cent of (American) adults will suffer from lower back pain but despite all the medical attention received by these people "up to 85 per cent... are left without a definite diagnosis [for] their pain."

The cover story of the August 16, 1999 *Macleans* was entitled "Coping with Pain". The September 99 edition of *Toronto Life* contained a chronic pain story - with the graphic title "Living Hell" - that refers to a growing consciousness within the medical fraternity that pain can be a condition in itself.

In May 1999, ABC aired a multi-part series on pain in its prime time news hour. Also in August 1999, *The New York Times* published an article called "Pain at Work: Startling Images and New Hope" which describes emerging diagnostic techniques to objectively measure pain. The story quotes a "neurologist and pain expert".

"The research", he said, "is helping dispel a number of false notions about pain." He said "Some doctors, for example, have believed that it was somehow less worthwhile to devote time and energy toward lessening a patient's pain than it was to treat the underlying disease or injury. And as late as the late 80's", he said, "the myth persisted that somehow what went on in the mind, or the cells of the brain, is somehow less scientific or real than what goes on physically in the body."

This small sampling suggests that a change in the general perception of chronic pain is taking place in that it is increasingly being accepted as a condition in itself. What causes this condition is another matter. Here, if anything, the popular media have only deepened the mystery.

V. SUMMARY - SCIENTIFIC REPORT

Introduction

The scientific advisory panel issued a draft report on August 17, 1999. This draft was submitted to international experts in the medical management of chronic pain for peer review and comment. While the peer reviewers did recommend changes and additions to particular sections of the report, they did not recommend any changes to the panel's findings. The panel reviewed the peer reviewers' written comments and incorporated appropriate changes into its final report, which was published in February 2000.

This chapter excerpts two sections from the scientific panel's report. They are the *Executive Summary* and the *Recommendations*.

The members of the Chronic Pain Scientific Advisory Panel were:

Chair Brock Smith, B Comm, MA

Robert Bernstein, PhD, MD, CM, CCFP, FCFP
Head, Medical Informatics Research Group, Department of Family Medicine
Associate Professor, University of Ottawa

Claire Bombardier, MD, FRCP
Professor of Medicine, University of Toronto
Director of Clinical Epidemiology and Healthcare Research Program, University of Toronto
Director Healthcare Research Division, Arthritis and Immune Disorders Research Centre, The Toronto Hospital

Angelica Fargas-Babjak, MD, FRCPC
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Judith Hunter, BSc(PT), MSc, PhD candidate
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Associate Scientific Staff, Department of Medicine, Mount Sinai Hospital
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Klaus Kuch, MD, FRCP
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Silvano Mior, DC, FCCS(C)
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Robert Teasell, MD, FRCPC
Professor, Department of Physical Medicine and Rehabilitation
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Robin Weir, RegN, PhD
Professor, School of Nursing, Faculty of Health Sciences, McMaster University
Associate Investigator, System Linked Research Unit on Health and Social Service Utilization
Co-investigator Quality of Work Life and Nurse Effectiveness Unit, School of Nursing
Clinical Associate, Chronic Pain Programme, Hamilton Health Sciences Corporation

Summary

What is pain? Panel members refer to the following definition of pain by the International Association for the Study of Pain (IASP)

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

Panel members also developed a definition of chronic pain for the study that included a time factor for the duration of pain, and consideration of insurance and compensation needs as follows.

Chronic pain is defined as pain that persists six months after an injury and beyond the usual recovery time of a comparable injury; this pain may continue in the presence or absence of demonstrable pathology.

Before proceeding to the panel's findings, consideration can be given to population studies in Canada to assess the impact of chronic pain and chronic disability in the population as a whole. Millar (1996) reported that 3.9 million adults in Canada (17% of the population) suffer from chronic pain. This estimate is based on the number of people who responded negatively when asked if they were "usually free of pain and discomfort".

Low back pain is estimated to affect 60-80% of individuals at some time of their lives (Papageorgiou et al. 1995). Estimates of recurrences after the first episode of low back pain range up to affecting 70% of those experiencing an attack of back pain.

The Chronic Pain Initiative came about mainly since it was felt that there was new scientific evidence about the nature of chronic pain. This report emphasizes this new evidence in two "special reports".

The term "special report" is used to identify these reports as important contributions to the report in areas that could not be included in the search of the literature for most of the report (described below).

The first "special report" relates the historical development from the time of Aristotle to current hypotheses about the feeling of pain involving changes in the spinal cord and brain. This "special report" also highlights pain as a multidimensional experience, rather than being purely physical or psychological.

In some circumstances the changes in the spinal cord and brain persist after the initial "painful" stimulus has settled. Additional new evidence comes in another "special report" of the evidence from studies in animals and humans, with use of advanced technology for imaging the human brain.

Advances in the understanding of chronic pain disorders have occurred from research into spinal back pain and a greater understanding of the effect of a peripheral injury on the spinal cord and brain. From spinal back pain research in a medical centre in Australia, invasive diagnostic techniques have identified a specific diagnosis in 60% of a series of patients with low back pain who were previously lacking a specific diagnosis from standard assessments. These new diagnostic techniques require special skill, care, and facilities, in order to avoid complications. The new diagnoses included intervertebral disc disorders, zygapophysial joint pain and sacroiliac joint pain. Fifty percent of another series of Australian patients with chronic neck pain following whiplash injury had cervical zygapophysial joint pain. In a randomized controlled trial of patients with pain following whiplash injury, injection of local anaesthetic into the painful cervical zygapophysial joint controlled pain for up to one year. These studies have not been duplicated in North America. Thus, there must be cautious extrapolation of these findings to patients in Ontario.

Animal research demonstrates expansion of nerve cells of the dorsal horn of the spinal cord following electrical stimulation of peripheral nerves. Experiments

show those chemical transmitters of pain and their receptors are concentrated in the dorsal horn. Further animal research has identified receptors that can amplify the pain signal in the spinal cord, such that repeated stimulation results in wind-up, a dramatic increase in dorsal horn cell excitability. The process may initiate and maintain central sensitization. Central sensitization involves increased excitability in the spinal cord with recruitment of previously unaffected nerve cells. This research supports the concept that pain can spread from injured to non-injured tissue.

Other pain research studies have demonstrated activity in the cortex of the brain, corresponding to the stimulated area and complaints of pain. This activity is detectable in amputees who report phantom pain, but no longer have the peripheral source of painful stimuli.

In a study of cortical activity following skin stimulation, activity was recorded in both sides of the brain in-patients with fibromyalgia, but only one side in healthy controls. This suggests altered processing of stimuli from the periphery in the brains of patients with fibromyalgia.

Other studies address knowledge of neurotransmitters, including substance P, a peptide neurotransmitter. Substance P differs from other neuropeptides by diffusing long distances after release. This implicates substance P in the process of widespread excitability in the spinal cord and brain.

The association of substance P with pain comes from a number of pain conditions. Substance P has been detected in painful intervertebral discs, but not in normal intervertebral discs. Patients with fibromyalgia have raised levels of substance P in cerebrospinal fluid (CSF) samples, compared with controls. Patients with painful hip or knee problems had elevated levels of CSF substance P. These substance P levels went down post-operatively in those patients who had significant pain relief after surgery.

Thus, there is evidence of the presence of substance P in different pain conditions. However, the evidence has not reached the stage to identify the role, if any, of substance P in diagnosis of chronic pain.

Another "special report" at the beginning of the report is about the classification of disablement, notably the 1997 WHO⁴ classification ICIDH⁵-2 for chronic health conditions. This classification combines factors associated with impairment and participation, with consideration of both environmental and personal factors to assess disablement. This classification and framework for assessment considers what an individual "can do", as well as what they "cannot do". Rehabilitation then becomes concerned with positive objectives for activity and participation. This "special report" contributes particularly, but not exclusively, to the sections on Prevention, Treatment and Disability Management.

⁴ World Health Organization

⁵ The International Classification of Impairment, Activities and Participation (formerly the International Classification of Impairment, Disabilities and Handicaps)

Review Process for Graded Evidence Reports

Now to the main objective of the report – the evidence-based scientific review. Panel members decided to review the available literature about chronic pain in order to accomplish the objectives of this study. In view of the vast scientific literature on the subjects of aetiology, prognosis, treatment, prevention and disability management of chronic pain, the panel accepted the offer of the Institute for Work & Health (the Institute) to conduct the initial steps of literature search and summarizing evidence on chronic pain.

Institute staff reviewed more than 11,500 article abstracts from the literature search of relevant databases from 1966 to August 1998, to select relevant systematic reviews of studies and other individual studies. Two Institute reviewers then read the 412 selected studies. Following agreement from two independent reviewers, studies of satisfactory methodological quality were identified. Reviewers then developed an evidence table to report findings from the 188 studies of adequate methodology. Institute staff then supplied the studies, with the evidence table, to the WSIB for distribution to panel members.

Panel members divided into two groups, One group reviewed aetiology and prognosis, and the second group reviewed prevention, treatment and disability management.

Each panel member was responsible for reviewing a set of studies and evidence tables provided by the Institute, and then for preparing a draft section of their findings on the topic. Another group member reviewed the draft section with articles and evidence tables to limit potential bias. The sections were then reviewed within the group and then by the entire panel. Individual panel members modified their sections in response to suggestions from other panel members.

In August 1999, Board staff sent the draft report to seven international experts (Prof. P. Wall, Dr. J. Crook, Dr. G. Gale, Dr. A. Mailis, Dr. H. Merskey, Dr. J. Murray and Dr. E. Tunks) for peer review. An additional section (Prevention of Chronic Pain) was sent for peer review to three other international experts (Dr. J. Katz, Dr. S. Linton and Dr. E. L. Gross) in October 1999. The comments and the suggestions of the peer reviewers provided panel members with the basis for minor revisions to finalize the draft report.

For aetiology, predictors of chronic pain were sought. For prognosis, predictors that chronic pain will lead to disability were sought (Part Three).

Conclusions about the evidence were summarized by four levels of evidence ranging from Level 1, as strong evidence, based on multiple relevant and high quality studies, to Levels 4a and 4b, inadequate evidence and contradictory evidence.

Level 1: Strong evidence: multiple and relevant high quality scientific studies.

Level 2: Moderate evidence: one relevant high quality scientific study or multiple adequate* scientific studies.

Level 3: Limited evidence: at least one relevant adequate scientific study.

Level 4a: Inadequate evidence: only one relevant, low quality scientific study or in a medium quality study, the specific predictor under review was not adequately assessed or no relevant adequate studies available.

Level 4b: Contradictory evidence: contradictory results from scientific studies.

* adequate study: studies of medium quality, with adequate measurement and analysis of the predictive factor under review.

Different studies used different definitions of "chronic". In the available studies, there were also different definitions of the same predictor. Some predictors were invariably linked with others as covariants.

Unfortunately, there was no consensus between investigators on the most relevant measure of outcome. Outcome measures included various definitions of impairment disability, or handicap. Assessment of these outcome measures was not blinded, such that observer bias was possible. Within and between studies there were also problems with a uniform definition of return to work as an outcome. For some studies, intervention strategies potentially biased results, and in others, the cohorts were at different stages of a continuum.

Most studies only evaluated a small number of predictors, but a few studies provided more information by identifying the most important predictors by multivariate analysis. Predictive studies evaluating single measures had limited predictive usefulness.

The highest grade of evidence found among the selected studies was Level 2 – moderate evidence – of predictors of chronic pain. Few predictors were assessed by panel members as Level 2 (moderate) evidence. These predictors are listed below.

- . **History of previous similar pain associated with occurrence of subsequent reports of pain.**
- . **Longer duration of pain associated with subsequent reports of pain.**
- . **Acute intensity of pain associated with subsequent reports of pain.**
- . **Availability of modified work associated with less disability.**
- . **Availability of work autonomy associated with less disability.**
- . **As the ratio of compensation to pre-injury wage increases, the duration of claims also increases.**

These Level 2 (moderate evidence) conclusions, and the conclusions of lesser strength, came from a relatively limited number of studies that each analyzed many factors. The most commonly cited studies, that panel members used in four or five of the six sections on Aetiology and Prognosis illustrate common features of the studies. Most studies analyzed many factors to cover more than one section of this report. Thus, some single studies analyzed demographic factors, pain history, physical findings, psychological factors, and employment and compensation factors. The objective of many studies was to determine a set of factors to combine as predictors of chronic pain and chronic pain disability. Emphasis tends to be on groups of factors showing statistical significance. However, those factors assessed that did not show statistical significance are also

important, since those factors may have been found to be statistically significant when analyzed with different factors and when compared to different groups of subjects.

As discussed in sections on individual factors, most studies evaluated multiple factors in relation to chronic pain. These studies generally evaluated groups of factors, rather than isolated factors. Studies evaluating a limited range of the possible factors potentially produce biased conclusions.

It is against this overall background that panel members attempted to identify the individual predictors of chronic pain and chronic pain disability that combine the strengths and limitations of the available studies.

Demographic Factors (Part Three, Section II)

There was contradictory evidence (Level 4b) that single marital status, lower income and lower education correlate with chronic pain disability. These factors may co-vary with job-related factors, and marital status and education can correlate with factors related to cooperation with exercise programs, as well as job-related factors.

The studies provided **limited and contradictory evidence (Level 4b) that older age and female gender correlate with chronic pain and chronic pain disability.** However, these factors may be markers or covariants for causal factors – findings varied with different patient groups, settings and interventions. There was **limited evidence (Level 3)** that evaluation of other predictors, while controlling for age and gender, may help to identify true risk factors.

Medical History (Part Three, Section III), Physical Symptoms and Signs (Part Three, Section IV)

Intensity of pain (moderate evidence – Level 2) and location and extent of injury (limited evidence – Level 3) correlate with later chronic or persistent pain. This correlation cannot be extended with confidence to a causal association.

It is also notable that physical symptoms and signs cannot be considered as individual predictors of chronic pain and that functional disability and psychological distress play more important roles than pain intensity in the transition from subacute to chronic pain disability.

Previous injuries and duration of pain correlate with both chronic pain (moderate evidence – Level 2) and chronic pain disability (limited evidence – Level 3).

Duration of symptoms and history of previous injury correlate with chronic, or persistent, pain disability (activity) and chronic pain disability (participation) (limited evidence – Level 3)

Psychological Factors (Part Three, Section V)

Few prospective studies investigate the role of psychological factors in the aetiology of chronic pain and chronic pain disability. Many well known studies of the subject were excluded as a result of the strict methodological selection criteria. The available literature provided only **limited evidence (level 3)**, for the following factors relating to chronic pain and chronic pain disability:

- . **Chronic depression leading to the development of certain new pain locations** (less for low back pain than for headache and chest pain).
- . **Prior nervousness as a non-specific predictor for work disability.**
- . **Past negative life events may lead to reduced work retention.**
- . **Depression, anxiety, and a sense that control rests outside oneself may slow recovery from pain and disability.**

Due to the small numbers of studies, the evidence for chronic pain resulting from psychiatric disorder was limited. However, co-morbidity between chronic pain and psychiatric disorder is common. In addition, several types of pain, in particular headache, can be stress-sensitive-can worsen as psychological distress develops.

Psychological change is often part of emerging chronic pain but this does not prove its role as a causative agent. Since poor psychological health can appear at an early stage of chronic pain, it may be a complication of, rather than a contributor to, the development of chronic pain.

Employment-Related Factors (Part Three, Section VI)

The studies reviewed evaluated employment-related factors as one of a number of factors in each study, as noted in other sections of Part Three. The relatively small number of studies of adequate quality provided weaker evidence than suggested in some reports excluded from the panel's review.

Of the factors reviewed both lack of modified work and lack of work autonomy in the workplace showed **moderate evidence (Level 2)** of prediction of chronic pain.

Lack of job satisfaction is often cited as a factor in the development of pain complaints and of disability. However, the studies reviewed provided **limited evidence (Level 3)** that **lack of job satisfaction, or perception of difficult job conditions and demands**, were associated with chronic pain disability.

Likewise, other assessments of the type of work have suggested an association between heavy manual labour and the development of low back pain. The reviewed studies provided **limited evidence (Level 3)** that the **physical demands of the job play a role in the development of chronic pain disability**, among other potential risk factors. Evaluation of the correlation of a private employer and lower socioeconomic status showed **limited evidence (Level 3)**. The number of years employed with a firm varied as a factor in different studies (**contradictory evidence – Level 4b**).

Compensation (Part Three, Section V11)

The role of compensation in chronic pain is controversial, but there is no definite evidence that compensation affects the development of chronic pain.

There is **limited evidence (Level 3)** that **filing a compensation claim for medical costs** is **not** associated with **length of time out of work and the regaining of functional status**. In addition, there is **limited evidence (Level 3)** that **retaining a lawyer** is associated with a **longer duration claim** – this may be reflective of the fact that both are associated with greater injury severity.

There is **moderate evidence (Level 2)** that as the ratio of compensation to pre-injury wage increases, the duration of the claim increases.

With regard to the impact of compensation on recovery, the studies suggested moderate evidence that compensation influences chronic pain disability. There is **moderate evidence (Level 2)** that, with a **higher (relative), level of compensation**, there is a **lower likelihood of return to work**. A single US study provided **limited evidence (Level 3)** that workers' **compensation status** particularly when combined with higher pain intensities, is associated with a **poorer prognosis for rehabilitation treatment** of patients with chronic musculoskeletal pain.

Prevention of Chronic Pain: the Unexplored Frontier bridges the move into Part Four, Prevention, Treatment and Disability Management. This "special report" on prevention of chronic pain responds to the need to reduce the incidence and impact of chronic pain.

For prevention of chronic pain, there was a lack of well-conducted studies of effectiveness of primary injury prevention.

For secondary prevention, early effective management of acute pain is likely to reduce the severity of acute pain, and may lessen the likelihood of chronic pain developing. On this basis, this "special report" summarizes guidelines for the management of acute pain and acute low back pain from around the world.

Review Process for Graded Evidence Reports

The literature selected and reviewed by the Institute (as described in Part Six, Appendix II) included individual randomized controlled trials (RCTs) as well as systematic reviews. RCTs are trials in which patients are randomly assigned to one or more groups. For example, patients may be assigned to either a treatment or control group (e.g., waiting list; placebo) and the two groups are compared in terms of treatment outcome (e.g., pain reduction, quality of life).

In contrast, systematic reviews select and evaluate previously published studies (usually RCTs) related to a particular question (e.g., which drug treatments are effective for

chronic pain). Individual studies included in the review are carefully selected using clearly set out selection, appraisal and quality criteria. After looking at the collective findings of these studies, conclusions are drawn about the effectiveness of a treatment or other research question. Thus, conclusions about treatment efficacy from a systematic review are generally more authoritative than from any single RCT.

There was little overlap between the RCTs in the systematic reviews and the individual RCTs identified for the panel's review. This occurred because of the time preparing systematic reviews, such that most of the RCTs included in the reviews had been published before the cut-off publication time for individual RCTs (since January 1996).

Only recently published individual RCTs were selected, since time for the project was limited. More recent studies also generally provide higher quality methodology than earlier publications and may not be included in published systematic reviews.

The conclusions in this report can only reflect the literature selected at the time (July-August 1998). The number of studies that passed the Institute's selection criteria (79) was small compared to the vast literature on the treatment of chronic pain.

The methodological quality of these highly selected studies was also variable. In instances where there were few studies and/or the methodological quality of available studies was relatively poor, a lower level of evidence for treatment efficacy has been reported. Two conclusions are possible in such circumstances. The first is that the consequent low quality rating may accurately reflect the ineffectiveness of the treatment (true negative). However, the second possibility is that the poor scientific quality of the study may make detection of significant treatment effects impossible. At present it is not possible to predict whether, or in what direction, the levels of evidence of effect might change.

Panel members assessed the evidence for the conclusions about treatment and disability management solely on the basis of the studies selected through the review process already summarized (also see Part Six, Appendix II).

For some treatment and disability management modalities, there were several systematic reviews and individual RCTs. For other modalities there were no systematic reviews and the evidence came from individual RCTs alone.

Levels of Evidence for graded Evidence Reports

Conclusions of treatment effectiveness in the report each provide one of four levels of evidence, ranging from strong to inadequate or contradictory evidence. The quality of the available studies was such that no treatments were found to be supported by strong evidence. Thus, the levels of evidence in this report ranged from medium to inadequate or contradictory evidence.

Individual panel members were responsible for preparing individual sections. However, all conclusions in this report have been reviewed and discussed by all panel

members to reach a final agreement for each conclusion, based on the available evidence.

The panel recommends that treatments that have positive outcomes of effectiveness based on moderate evidence (Level 2) should be considered for workers with chronic pain. This table shows chronic pain conditions, treatments for which there is moderate evidence of positive outcomes, and effective time (the time that the treatment benefit lasted after each treatment).

Conditions and Treatments – Moderate Positive Evidence

Condition	Treatment	Effective time
Chronic musculoskeletal pain	Multimodal biopsychosocial therapy	Short to intermediate (up to 6 months)
	Oral opioids	Short to intermediate (up to 6 months)
Chronic low back pain	Manipulation	Short to intermediate (up to 6 months)
	Exercise	Short to long (6 or more months)
	Multimodal biopsychosocial therapy	Intermediate to long (6 or more months)
Proven intervertebral disc herniation	Standard discectomy	Short to long (6 or more months)
Lateral epicondylitis	Triamcinolone injection at site	Short to intermediate (up to 6 months)
Fibromyalgia	Exercise	Short to intermediate (up to 6 months)
Chronic pain disability	Modified work programs	Intermediate to long (6 months or more)

Treatment Based on Moderate Negative Evidence

Conversely, treatments that have negative outcomes, based on strong or moderate evidence (Levels 1-2), should not be considered at this time. Both anti-depressants for chronic low back pain and traction for chronic neck pain and chronic low back pain were treatments for which negative moderate evidence (Level 2) was found.

There was limited evidence (Level 3) of effectiveness of many of the treatment and disability management modalities. For modalities that have limited evidence of a positive outcome, the modality should be conditionally considered when stronger evidence of effectiveness is not available. Such modalities should preferably be prescribed as part of a clinical trial to evaluate effectiveness.

Conversely, for those modalities that have limited evidence (Level 3) of a negative outcome, the treatment should generally not be considered, pending more evidence becoming available about the positive effectiveness.

For treatments that have inadequate (Level 4a) or contradictory (Level 4b) evidence about effectiveness, the treatment should be considered in exceptional circumstances for individual patients, or as part of a clinical trial.

If health care practitioners consider a treatment with limited, inadequate or contradictory evidence of a positive effect, the advice of a health care expert who is experienced in pain management interventions and keeps informed of new research developments and current clinical trials could be sought.

To assess the treatment considered effective for the management of chronic musculoskeletal pain, the conclusions for single treatments are presented in tables by condition, or diagnosis, from the report sections on types of treatment.

First, treatment for chronic musculoskeletal pain will be summarized, then for each of the chronic pain conditions included under the "umbrella" of chronic pain. There is no significance to the order of the interventions within the levels of evidence. Further review of the effectiveness of multimodal treatments and disability management will follow.

Each row in the following tables shows the treatment, level, or grade, of evidence of effectiveness, and the time that the treatment benefit lasted after each treatment (effective time), for each chronic pain condition.

Chronic Musculoskeletal Pain

Condition	Treatment	Positive evidence	Effective time
Chronic Pain	Oral Opioids	Moderate (Level 2)	Short to intermediate (up to 6 months)
	Anti-depressant medications	Limited (Level 2)	Short to intermediate (up to 6 months)
	TENS	Contradictory (Level 4b)	Short to long (6 months or more)
	Laser	Contradictory (Level 4b)	Short to long (6 months or more)
	Accupuncture	Contradictory (Level 4b)	Short to long (6 months or more)
Improve pain intensity and pain threshold	TENS	Limited (Level 3)	Short (up to 1 month)
Chronic pain conditions, other than chronic low back pain	Multimodal biopsychosocial programs	Moderate (Level 2)	Short to intermediate (up to 6 months)

Chronic Low Back Pain

Treatment	Positive evidence	Effective time
Manipulation	Moderate (Level 2)	Short to intermediate (up to 6 months)
Exercise	Moderate (Level 2)	Short to long (6 months or more)
Multimodal biopsychosocial therapy	Moderate (Level 2)	Intermediate to long (6 months or more)
Muscle relaxant medication	Limited (Level 3)	Short (up to 6 months)
Caudal epidural injection of steroid and local anaesthetic	Limited (Level 3)	Intermediate (up to 6 months)
EMG feedback	Limited (Level 3)	Short to intermediate (up to 6 months)
Neuroreflexotherapy	Inadequate (level 4a)	
Hypnosis	Inadequate (level 4a)	
Non-steroidal anti-inflammatory drugs (NSAIDs)	Contradictory (Level 4b)	Short to intermediate
Back school/group education	Contradictory (Level 4b)	Short to long
Treatment	<u>Negative</u> evidence	Effective time
Traction	Moderate (Level 2)	Short
Addition of steroid to local anaesthetic in epidural injection	Limited (Level 3)	
Orthoses, or back supports	Limited (Level 3)	

Interventions for chronic low back pain may have included individuals with both chronic low back pain and sciatica. (Sciatica is pain felt along the course of the sciatic nerve in the buttock and down the back of the leg on the same side.) Some studies identified interventions for chronic sciatica alone and for chronic low back pain with sciatica. The following table shows the evidence of effectiveness of epidural injection of steroids, without other agents.

Condition	Positive Evidence	Effective time
Chronic sciatica	Limited (Level 3)	Short to intermediate (up to 6 months)
Chronic low back pain with chronic sciatica	Limited (Level 3)	Short to intermediate (up to 6 months)

Other patients with low back pain may also have pain radiating down the leg with clinical findings supporting a symptomatic prolapsed intervertebral disc. Studies reviewing treatments for symptomatic and proven prolapsed intervertebral disc are shown in the following table.

Treatment	Positive evidence	Effective time
Standard discectomy	Moderate (Level 2)	Long (6 months or more)
Intra-operative steroid	Limited (Level 3)	Short (immediately post-op)
Microdiscectomy	Inadequate (Level 4a)	

Chronic Neck Pain

Treatment	Positive evidence	Effective time
Exercise	Limited (Level 3)	Short to long
Muscle relaxant	Limited (Level 3)	Short
Manipulation/ mobilization	Contradictory (Level 4b)	Short to intermediate
Treatment	<u>Negative evidence</u>	Effective time
Traction	Moderate (Level 2)	Short (up to 1 month)

Neck injuries can cause neck pain and also chronic post-traumatic headache.

Treatment	Positive evidence	Effective time
Manipulation/ mobilization	Limited (Level 3)	Short

Chronic Upper Limb Pain

The available studies were generally of patients with non-specific upper limb diagnoses, or they were studied in groups with a variety of diagnoses. Only rotator cuff tendinitis at the shoulder and lateral epicondylitis at the elbow provided some specificity.

Treatment	Positive evidence	Effective time
Rotator Cuff Tendinitis		
Sub-acromial steroid injection	Limited (Level 3)	Short to intermediate (up to 1 month)
	Inadequate (Level 4a)	Intermediate to long
Specific tendon injections	Inadequate (Level 4a)	

Treatment	Positive evidence	Effective time
Chronic Shoulder Disorders Caused by Soft Tissue Disorders		
Exercise	Limited (level 3)	Short (up to 1 month)
Manipulation/ mobilization	Contradictory (Level 4b)	Short
Painful Shoulder		
Local non-specific injections	Limited (Level 3)	Short to long (up to 1 month)
Targeted or specific injections	Contradictory (Level 4b)	Short
Shoulder Arthritis		
Intra-articular steroids	Limited (Level 3)	Short to intermediate (up to 6 months)
Lateral Epicondylitis		
Local triamcinolone injection	Moderate (Level 2)	Short to intermediate (up to 6 months)
Multiple triamcinolone injections	Limited (Level 3)	Intermediate (up to 6 months)
Exercise	Limited (Level 3)	Intermediate (up to 6 months)
Local glycosaminoglycan polysulphate injection	Limited (Level 3)	Short to intermediate (up to 6 months)
Treatment	<u>Negative</u> evidence	Effective time
Shoulder Pain		
Exercise	Limited (Level 3)	Short to intermediate
Non-steroidal anti-inflammatory drugs (NSAIDs)	Limited (Level 3)	Short to intermediate

Fibromyalgia Syndrome

Fibromyalgia syndrome characteristically includes multiple symptoms of generalized musculoskeletal pain, stiffness and easy fatigability, with associated non-restful sleep. The following table shows the evidence for single treatment modalities for fibromyalgia syndrome.

Treatment	Positive evidence	Effective time
Exercise	Moderate (Level 2)	Short to long (up to 6 months)
Amitryptiline	Limited (Level 3)	Long (6 months or more)
Each of growth hormone (if low growth hormone) and thyroid hormone	Limited (Level 3)	Long (6 months or more)
Each of ondansetron and zoldipem	Limited (Level 3)	Short (up to 1 month)
Bright light	Inadequate (Level 4a)	
Music vibration	Inadequate (Level 4a)	
Intravenous lidocaine	Inadequate (Level 4a)	
Antidepressant medications	Contradictory (Level 4b)	
Treatment	Negative evidence	Effective time
NSAIDs	Limited (Level 3)	Intermediate
Each of malic acid and magnesium, calcitonin injections and S-adenyl-L-methionine	Limited (Level 3)	Short

Myofascial Pain Syndrome

Myofascial pain syndrome consists typically of local pain, spasm and tenderness in muscles or at muscular insertions, with loss of range of motion. This occurs without neurological abnormality. Treatment is generally symptomatic.

Treatment	Positive evidence	Effective time
Electrical nerve stimulation	Limited (Level 3)	Short (up to 1 month)
Steroid trigger point injection	Inadequate (Level 4a)	Short

Temporo-Mandibular Pain

One RCT evaluated sumatriptan, an oral drug, for temporo-mandibular pain. There was limited evidence that oral sumatriptan is not effective for temporo-mandibular pain in the short term (negative evidence – Level 3).

Multidisciplinary Treatment Programs

Healthcare workers from several different disciplines should contribute to the treatment of each individual with chronic pain. Biopsychosocial treatments address the range of

physical, psychological and social components of chronic pain. The objective of such treatments is to change beliefs, attitudes, coping style, dysfunctional behavior patterns, activity levels, etc., so that each individual with chronic pain experiences better health, improved quality of life, decreased pain and reduced absenteeism from work.

Biopsychosocial - multimodal	Positive evidence	Effective time
Chronic low back pain	Moderate (Level 2)	Intermediate to long (6 months or more)
Chronic pain, other than chronic low back pain	Moderate (Level 2)	Short to intermediate (up to 6 months)
Biopsychosocial - unimodal for chronic low back pain		
EMG feedback	Limited (Level 3)	Short to intermediate (up to 6 months)
Hypnosis	Inadequate (Level 4a)	
Either back school or group education	Contradictory (Level 4b)	Short to long

Disability Management

The current adoption of an active physical and psychological approach to management of chronic pain disability is designed to address not only the physical consequences of the pain problem but also to acknowledge its complex multidimensional nature.

Management	Positive evidence	Effective time
Modified work programs	Moderate (Level 2)	Intermediate to long (6 months or more)
Clinic-based work conditioning and work hardening	Contradictory (Level 4b)	Long
Multimodal biopsychosocial	Contradictory (Level 4b)	

What can be done with the conclusions about treatment and disability management?

Treatment options for chronic low back pain are generally more intensively studied than for other chronic pain conditions. The other chronic pain conditions include a variety of other chronic soft tissue injuries plus fibromyalgia and myofascial pain syndrome. These other conditions have clinical features that differ from chronic low back pain. However, earlier hypotheses and developing evidence about the pathophysiology of

acute and chronic pain and the multifactorial nature of chronic pain suggest that common links may exist between the chronic pain conditions. Similarly, it is possible that treatments that address the common links and result in positive outcomes in one type of chronic pain may also be effective in other types of chronic pain, unless evidence to the contrary has been established.

Most of the conclusions provide evidence of effectiveness at less than moderate to strong positive evidence (Levels 1-2), when recommendations for the treatments can be made. Interventions with limited evidence (Level 3) of effectiveness suggest lesser effectiveness for the condition studied. However, the weaker evidence could also arise from the number and methodological quality of the available studies.

Many health care providers who see individuals with chronic pain conditions believe in the effectiveness of multidisciplinary treatment programs for chronic pain. These multimodal treatment programs can address the multifactorial nature of chronic pain (identified in Part Three), both in groups and individuals. All physical, psychological and social aspects must be specifically addressed in the management of chronic pain conditions. For most individuals with chronic pain, no single intervention can achieve this effect. Sections II-VII of Part Four report on the evidence of single treatments that could contribute to a multimodal treatment program. Conclusions from these sections have already been summarized in the tables with the conclusions of studies of multimodal biopsychosocial programs from Section VIII and disability management programs from Section IX in Part Four.

The studies reviewed of multimodal biopsychosocial programs for chronic low back pain showed moderate evidence (Level 2) of effectiveness in the intermediate and long term following the program (more than one month to greater than six months).

Thus, the multimodal biopsychosocial programs are recommended for chronic low back pain. Key features of the multimodal program were a cognitive-behavioral component, with or without a behavioral component. Effectiveness of these programs may come from changes in pain-related beliefs and coping strategies. It is notable that some studies suggest that these programs are less effective when delayed by trials of single interventions.

The available studies of multimodal biopsychosocial treatments for other chronic pain conditions, excluding chronic low back pain, also showed moderate evidence (Level 2) of effectiveness for up to six months. However, the effectiveness of this form of treatment over the longer term (more than six months after treatment) is less clear and requires further study. Studies of individual components of the multimodal programs also show limited evidence (Level 3) or weaker.

The review of multimodal biopsychosocial treatments (Part Four, Section VIII) also included back schools and similar group education programs as unimodal interventions for chronic low back pain. The evidence for these interventions was contradictory (Level 4b).

Individuals with chronic pain should be people with names and interests, rather than cases of chronic pain with test results. Generally, patients with chronic pain should be assessed by a multidisciplinary team the members of which have specific skills and knowledge related to the treatment of chronic pain. Their skills and knowledge should be based on up-to-date knowledge of pain theory and research.

Clinical management of those with chronic pain should also be done by a multidisciplinary team that is capable of evaluating treatment programs using appropriate research design and data analytic methods. Evidence-based practice is no less important in chronic pain than in other areas of health care. The many myths and misunderstandings related to chronic pain, as well as the tendency to stigmatize those who experience it, makes training and expertise in this area essential.

Future research could assist in identifying the optimal interventions for a multimodal program to assist individuals with chronic pain. However, this research should recognize the complexity of the chronic pain conditions and of coordinating multimodal, multidisciplinary intervention programs.

In conclusion:

- New scientific evidence established that changes in the central nervous system, in response to acute pain signals, can continue to signal painful sensations in the absence of acute painful stimuli. Researchers continue to investigate the complex interactions involved in this process.
- Panel members reviewed high quality methodological studies for this report, identified from the vast scientific literature. They found that multiple factors in combination predict chronic pain. They also found that multimodal treatments were effective for chronic pain, a multifactorial condition.
- Panel members recommend further research with attention to study of methodology, including statistical evaluation of predictors of chronic pain and of the treatment for chronic pain.
- Panel members also recommend regular update of this review to provide the current information related to chronic pain.

Recommendations

Role of the Panel

On completion of the review of treatment and disability management of chronic pain, as described in sections II to IX of Part Four of the report, questions arise concerning the translation of the conclusions into practical clinical treatment and compensation recommendations. The panel was hesitant to provide such guidance, because our role was to conduct a review and analysis of the scientific evidence on chronic pain and did not extend into the policy domain. In contrast to the review, policy development is not a

scientific process. Rather, it brings to bear a wide range of institutional and societal values that provide the context for policy. What are the acceptable costs and sufficient benefits of specific treatments? What resources should be allocated to the prevention and treatment of chronic pain? What is the appropriate balance between the needs of the injured worker and the employer?

Although our mandate was simply to conduct a scientific review, it has been pointed out that, because we are most familiar with the evidence related to chronic pain, we should provide some guidelines for translation of our findings into policy. Thus, after some debate, the panel agreed that provision of some general guidelines would be appropriate. These guidelines are described below.

Caveats

The panel wishes to emphasize that although we are satisfied with the methodology and results contained in this report, these findings cannot be considered a definitive endpoint. As with any field of scientific enquiry, our knowledge and understanding of chronic pain mechanisms, aetiology, prevention, and treatment is an evolving process. Our review covered the period up to August 31, 1998. Since then, additional research has been published, or been made available, that may have altered some of our conclusions regarding levels of evidence. With recent developments in our knowledge of the pathophysiology of chronic pain and its treatment, an already burgeoning field has exploded. Concepts of pain that were widely accepted even a few years ago have rapidly become untenable, and ever more radical advances are on the horizon. Thus, it is important that those who use our findings are aware of the limitations of our work and apply our conclusions to "real world" circumstances in a careful and prudent manner. This admonition applies to clinical decision-making, policy development, legislative, and civil litigation domains.

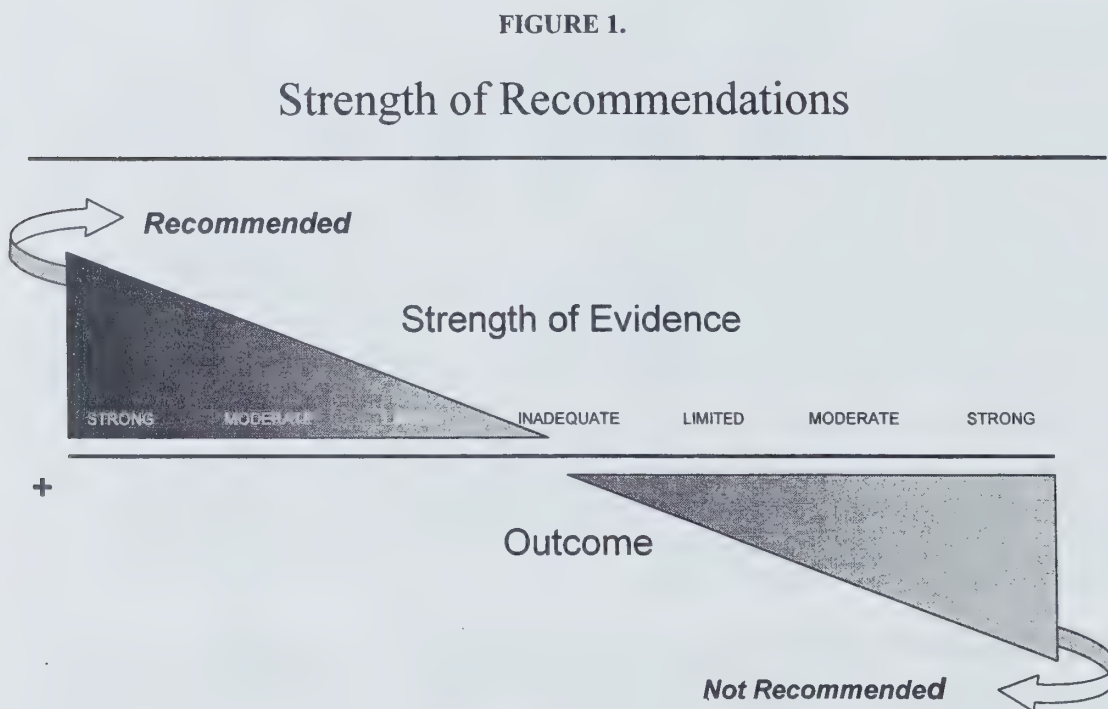
We would also like to emphasize that the studies we have reviewed provide descriptions of how heterogeneous samples of patients respond to various treatments. That is, in some of these studies, individuals with different clinical conditions and different clinical courses were grouped together for evaluation of a treatment. Generally, subgroup analyses of these diverse groups were not conducted, likely because of small sample sizes or a focus on "chronic pain" more generally. However, not even the best available treatments work for everyone, and there may be treatments that work for certain subgroups, but not others. Although examples exist (e.g., Turk, et al., 1998), few studies have investigated individual differences in response to treatment. Thus, the panel recognized that treatment groups are often heterogeneous, and so it is not possible to determine the relative benefits of treatment for members of these subgroups. The efficacy of these treatments for patients with different characteristics can only be determined through additional randomized controlled trials that specifically evaluate such differences. Although we strongly support an evidence-based approach to treatment decision making, consideration must still be given to the complexities and capacities of individual patients.

A Framework for Interpreting the Results of this Review

In translating our findings into policy, two evaluative dimensions of the treatment or disability management program should be considered:

1. The strength of the evidence (strong, moderate, limited and inadequate);
2. The outcome, result, of the study of effectiveness (positive versus negative).

Figure 1. provides a graphic depiction of an evidence-based decision-making framework for the two dimensions.

*Specific Recommendations*

In our review, there was no evidence that was considered “strong” (Level 1) using our classification process. Although our review set reasonably stringent quality standards and hence was quite conservative, it would be appropriate to conclude that many of the studies that were reviewed were of poor methodological quality. As noted in Appendix II, only 167 of the 11,565 articles identified were included in our evidence tables (i.e., 1.44%). Of the remaining small number of reviewed treatment studies, none were classified as providing “strong” (Level 1) evidence. Consequently, the highest level of evidence characterized here is “moderate” evidence (Level 2). A clear conclusion that may be drawn from this process is that there are very few high quality studies, and that many are of insufficient quality.

We would also like to emphasize that where we have concluded inadequate (Level 4a) or contradictory (Level 4b) evidence, the only conclusion that should be drawn is that the available evidence is simply unclear. It should not be interpreted as an indication that treatments assigned this designation are ineffective.

Based upon the framework, shown in Figure 1, our recommended criteria for selecting treatments are:

1. Treatments that have positive outcomes, based on moderate evidence (Level 2), should be considered.
2. Treatments that have positive outcomes based on limited evidence (Level 3) should be considered when those based upon stronger evidence are not available (i.e., conditional approval), and preferably should be prescribed as part of a clinical trial to evaluate effectiveness. *
3. Treatments for which existing evidence is inadequate (Level 4a), or contradictory (Level 4b), could be considered for individual patients in exceptional circumstances, or in the context of clinical trials. *
4. Treatments that have negative outcomes based upon limited evidence (Level 3) should not be considered at this time.
5. Treatments that have negative outcomes based upon moderate evidence (Level 2) should not be considered.

* Health care professionals might consult health care experts who specialize in the management of pain when considering a treatment with less than moderate evidence (Level 2) of a positive outcome. These specialists can provide advice related to any relevant research developments pertaining to acute and chronic pain, including current clinical trials.

General Recommendations

The panel would also like to make the following general recommendations:

1. Given the paucity of high quality research related to treatment, and the need for a solid platform for evidence-based practice in the area of chronic pain, it is recommended that funds be made available for high quality research. High quality research can provide evidence to clarify areas in which the evidence is currently either limited, inadequate, or contradictory. Given the relevance of such research to the WSIB and its stakeholders, funding of this type should be considered.
2. The present review should be updated at regular intervals to provide the WSIB and its stakeholders with current information related to chronic pain on which to

base future funding and treatment decisions. Considerable time, money, and effort have been invested in the process to date. The additional resources needed to provide updates are comparatively small and would provide a cost-effective mechanism for remaining current.

3. Wherever possible, early intervention should be established. Prevention efforts are more likely to be of benefit when they are done early. These interventions include both prevention of acute pain and interventions that occur during the period of transition from acute to chronic pain.
4. Although prevention may offer the greatest hope in reducing the incidence of chronic pain, it is also the least well-developed area within chronic pain theory, research, and practice. It is particularly important to develop and evaluate new methods of prevention. Effective preventative measures are surely superior to any form of treatment for established chronic pain.
5. In addition to addressing general issues of treatment effectiveness, future research should examine:
 - a) the role of individual differences (Who benefits from what treatment?)
 - b) the time frame of treatment (When is a treatment effective?), and
 - c) the dose-response relationship (How much treatment and for how long?)
6. Few of the studies reviewed addressed the important issue of clinical versus statistical significance. For both Part Three and Part Four of this report, conclusions tend to be based upon statistically significant effects. Such effects may or may not be meaningful or clinically important. Future researchers should assess the clinical importance of their findings in addition to providing a statistical evaluation of their studies.

Coda

Despite the progress that has been made in recent years, there continue to be large numbers of individuals who are not adequately treated, and whose quality of life is adversely affected by the various conditions collectively referred to under the rubric "chronic pain". It is now clear that the Cartesian mind-body dualism that has characterized earlier efforts to understand pain is no longer tenable, and will not advance our knowledge of pain.

In terms of treatment, it is unacceptable to attribute chronic pain to either psychological or physical factors. All pain, whether acute or chronic, is a phenomenon that affects, and is affected, by both mind and body. It is important that all of those involved in helping injured workers – including health care professionals, employers, case workers, administrators, union representatives, co-workers, and family members – have a basic understanding of the multidimensional nature of chronic pain. It is only when all of

these stakeholders adopt a common approach that chronic pain and disability can be properly addressed. Chronic pain is a multidimensional problem that requires a multidimensional solution:

A safe prediction is that the panacea for pain will not be found. The future of pain therapy appears to be in the rational use of multiple parallel therapies ... the intelligent combination of the right kind of treatments." (Melzack & Wall, 1996, pp. 286-7)

Thus, the greatest hope for those with chronic pain lies in appropriate combinations of evidence-based therapies provided within the context of the biopsychosocial model for management of chronic pain.

VI. CHAIR'S DISCUSSION - SCIENTIFIC REPORT

Introduction

As chair of the two panels, my primary responsibility was to guide the process towards a timely conclusion and present the findings and recommendations of the panels to the WSIB. However, as noted later in this report, the policy panel was unable to come to a consensus on the compensation question. In light of this, as chair, I felt that it was my responsibility to present an independent recommendation to the WSIB based on what I had been able to learn from my very extensive involvement in this process.

In forming my recommendations, I felt it important to provide a layperson's interpretation of the scientific panel's review of the literature on the aetiology of chronic pain since this is at the heart of the compensation question. Obviously I do not approach this from a scientific background but rather from a desire to be of assistance to policy makers. The reality of policy making makes it necessary to go beyond the strict discipline of scientific method which, by its nature, yields limited and qualified findings that cannot be directly translated into policy. The policy maker, on the other hand, often must decide between "yea or nay", as it were, and in order to do so must, by necessity, boil down and integrate the plethora of complex information that has been set before him or her. With apologies to members of the panels, I am attempting to assist that process in this chapter. I emphasize that the observations set forth are strictly my own and have not been vetted in any way by any members of either panel or board staff.

The scientific panel's findings fall into essentially two areas. First, aetiology and prognosis that is, what is the origin of chronic pain and how can pain intensity and duration be predicted for patients with injuries? The second area is prevention, treatment and management or, what are the best methods to avert or ease chronic pain, help people to live with it and get them back to meaningful employment? I am going to deal primarily with the first area in this chapter.

The research on aetiology, reviewed by the panel, goes to the core of the issue. When injured workers say that they cannot go back to their old job because of severe and

continuous pain beyond what is thought to be normal for the injury, is this condition caused primarily by the work injury in the first place? Or is it ancillary, and not something that can be primarily attributed to the workplace with any degree of scientific confidence?

WCAT Decision 915

Before dealing with the scientific panel's findings I want to go back to the last time this issue was extensively adjudicated in Ontario. That occurred when the Workers' Compensation Appeals Tribunal (WCAT) issued Decision 915 in May 1987. This decision laid the foundation for subsequent Board policy, and to this day it is cited by advocates in opposition to *Bill 99's* chronic pain clause.

Chapter six of the decision deals at length with the compensability of chronic pain. First, citing the American Psychiatric Association's DSM III, expert testimony from four witnesses, one specific study and "numerous studies of chronic pain over the past 10 or 20 years", the Tribunal concluded that "Psychogenic Pain Disorders can no longer be questioned in principle. They are as involuntary as cases of physical injury and they can be severely disabling."

Having established that chronic pain is "real", the WCAT panel went on to ask, "Can there be sufficient causal connection to the [workplace] accident injury?"

The WCAT panel summarized the employer's argument:

The argument is that on the medical evidence these disabilities would not have occurred following the accident were it not for a host of factors unconnected to employment. These factors may include a pre-disposing mental make-up or emotional state, secondary gain factors, the personal vulnerabilities of a worker arising from his or her individual lack of skills, education or language (which can make a non-major injury appear career-threatening and thus highly stressful), the nature of family relationships, personal financial circumstances, etc. Since none of these things are within the control of an employer, the condition they produce should not, it is argued, be regarded as his or her responsibility (p. 133).

The decision contains no reference to which particular employers took this view or what evidence if any they offered to support it.

The argument for the "other side" is summarized and supported by the Tribunal.

...the industrial injury has been the catalyst which has brought all of these factors into play, that these severe disabilities would not have appeared had it not been for the accidental injury, and that, accordingly, they may be seen fairly to have "resulted" from the industrial injury (p. 133).

It advanced both legal and medical reasons to support this argument.

At that time the governing legislation contained no special provisions with respect to chronic pain. However, the WCAT panel felt that it was able to build a legal case for compensation based on its interpretation of the *Act*, and on the fact that, in Canadian civil litigation claims, the courts were accepting "disabilities caused by psychogenic pain" as a basis for damage awards.

The medical evidence included oral testimony from Dr. E. Tunks who debunked the so-called "compensation neurosis" theory, then common in the United States, which purported that chronic pain claims were based more on the availability of compensation than an actual medical condition.

Report of the Scientific Panel

The scientific panel's work included a systematic review of virtually all available scientific literature on the aetiology of chronic pain published between 1996 and 1998. The methodology followed by the panel is fully described in its report. Here it is sufficient to note that the evidence collected is not based on the clinical experiences of the panelists. Rather it is based on empirical data derived from the limited number of scientifically controlled studies and tests that were judged by the Institute for Work and Health to be of adequate or better methodological quality.

What causes chronic pain?

If chronic pain disability arises solely from the work injury then one would expect its incidence, relative to other factors, to be random. On the other hand if chronic pain arises from causes primarily unrelated to the injury then studies should be able to pick out certain patterns that would predict the incidence of chronic pain disability.

The panel looked at the following areas: demographics, medical history and physical symptoms and signs, psychology, employment-related factors and compensation. It used a standard grading system, provided by the Institute for Work and Health, to categorize the quality of the evidence. The top grade is called "level 1" which means "strong evidence with multiple, relevant, high quality studies". However no studies achieving this level were identified.

So the panel had to deal with evidence ranging from the grade of "level 2", which means "moderate evidence: one relevant, high quality scientific study or multiple adequate scientific studies" down to the bottom rung grade of "level 4b", which is defined as "contradictory evidence: contradictory results from scientific studies".

It should be noted that the panel's report is quick to emphasize that even if a positive statistical relationship exists between a variable and chronic pain, it does not necessarily follow that the pain was "caused" by the particular variable.

Demographics

The panel examined the results of studies that evaluate age, gender, education, income and marital status as possible predictors of chronicity. The results that they found are relatively weak and inconclusive. Some evidence suggests that older women are more likely to develop chronic pain and not return to work, but other studies found that age and gender are not significant. Similarly there is some indication that married people with less education and lower income are more susceptible to chronicity, but other studies do not support this.

Medical History and Physical Symptoms

The findings here indicate that the intensity of pain and the location and extent of the injury predict later chronic or persistent pain. It was also found that a history of previous injury and pain duration is a predictor. Thus factors both pertaining to the actual injury and factors independent of it are identified as being associated with the development of chronic pain.

The report qualifies the above by stating that physical symptoms and signs cannot be considered as individual predictors and that functional disability and psychological distress play more important roles than pain intensity in the transition from subacute to chronic pain disability. Whether psychological distress is a cause or a result of pain intensity is discussed below.

Psychology

The panel looked at some 20 studies and reported on their results.

A study of 11,000 Finnish farmers found that "there was a statistically significant trend of increasing risks [of retiring prematurely on a disability pension] with increasing categories of psychological distress estimated for ... musculoskeletal disorders... Thus, this study alone provides limited evidence that psychological distress predicts musculoskeletal disability." (p. 93)

However, not all studies produced this result. The panel report states that:

Predictors of outcome in other studies include cognitive variables, coping, mood, anxiety and personality variables. The evidence is not unanimous. Some studies do not demonstrate any predictive power for psychological variables. Others do. This weakens the evidence but does not demonstrate conflict. Negative results demonstrate only that an impact from psychological factors could not be demonstrated by a particular study, not that there cannot be an impact (p. 94).

What is more certain, according to the panel, is that if mental disorders accompany chronic pain they may exacerbate its effects.

Psychological impairment may precede injury. It may also be part of emerging chronic pain. Its presence does not prove that it has a role as a causative agent for chronic pain, although it clearly makes matters worse. Poor psychological health can be a complication of pain that becomes apparent at an early stage of chronic pain (p. 94).

Employment Related Factors and Compensation

Do people develop chronic pain disability because they do not wish to return to a job they do not like? Or any job at all? Does the compensation system itself actually encourage people to develop chronic pain symptoms in order to qualify for benefits?

These critical issues are examined in Part 2, Sections VI and VII of the scientific panel's report.

Back to 915

In examining the panel's conclusions it is useful to return briefly to Decision 915. It refers to an American study published in 1961 that encouraged the belief that,

...in a large percentage of litigation or compensation cases chronic pain problems clear up as soon as the litigation is completed. Of course this view led to the conclusion that if the majority of such claimants were not outright malingerers, their condition was in essence created by the compensation process itself, not the original injury (p. 139).

However, as noted above, the Tribunal chose instead to accept testimony from Dr. Tunks, who cited subsequent studies showing that such conclusions were based on unsound research and were therefore invalid.

Decision 915 went on to ask 'Can the role of secondary gain be a bar' to return to work. The Tribunal was referring to the theory that people may, while suffering in one way, also "gain" something from their disability and will therefore exaggerate its severity.

Such factors include the worker finding the role of invalid serving some deep psychological need, a dislike of the job situation, a wish for compensation, anxiety about financial matters, supporting family connections, the presence in the family of 'successful' role models, etc. (p. 142).

The Tribunal again relied on the expert testimony of Dr. Tunks to the effect that the secondary gain phenomenon could be real but that close medical examination of claimants would successfully weed it out.

Job satisfaction, type of work, work autonomy

The scientific panel looked at job satisfaction, the type of work and work autonomy as possible influences on chronic pain disability. It cites the "highly influential" Boeing study which showed that people who "hardly ever" enjoyed their jobs were 2.5 times more likely to report a back injury than those who "always enjoyed" their jobs. The panel report notes however that, since its publication, a number of methodological shortcomings have been found in this study, bringing its results into question.

Nonetheless, the panel then goes on to review four studies which, while not exactly "confirming" Boeing, do say there is "limited to moderate evidence that job satisfaction, or the perception of difficult job conditions and demands, is associated with the development of chronic pain disability" (p. 100).

Concerning the impact of "type of work", the literature shows, not surprisingly, that people who do physically demanding jobs are more likely to develop lower back pain. The review evidence also shows that the availability of modified work and work autonomy (ability to set your own pace) are important factors in successful return to work.

The panel quotes studies that searched for other employment related factors as predictors of chronic pain disability (often defined as failure to return to work). Some factors identified were shorter and longer time on the job, working in the public sector and lack of varied work.

Lower socioeconomic status and level of education are other factors identified by the literature as being associated with chronic pain disability but there is a suggestion that these are ancillary factors to "type of work" and "work autonomy".

The panel concludes its examination of employment factors by citing a number of studies that underline the importance of early recognition and modified work in reducing chronic pain disability.

Compensation

Part 2, Section VII of the scientific panel's report deals with the all-important question of whether the availability of compensation will influence the occurrence, duration and chance of recovery from chronic pain disability.

It first observes that ten studies conducted between 1945 and 1982 "all failed to confirm the popular belief that all patients recovered after settlement of litigation (p. 115)." Nonetheless, a review of the studies comparing the experiences of compensated and non-compensated patients, reveals that compensation patients do complain of more pain, although the "difference (between compensated and non-compensated) was

actually quite small" (p. 115). Two other studies say that compensation, as one of several factors, can be linked to chronic pain.

Is compensation a factor in the duration of claims? It seems that this will vary with the pre-injury wage and the level of benefits. The panel cites a study that states, "It was found that lower wages increased, and higher wages decreased the duration of a claim (and that) lower benefits decreased the duration of a claim while higher benefits increased the duration of a claim (p. 118)." The same study also found, not surprisingly, that the severity of the injury increased the length of a claim. Another study comparing compensated and non-compensated workers found that the former took longer to get better.

Another way of looking at this question is to measure recovery rates of people receiving various levels of compensation or none at all. The panel report devotes a separate section to this and begins the discussion by observing that, "the fact that claim rates and claim durations are influenced by the amount of compensation certainly suggests that financial incentives play a role." But then it says, "however, there is no evidence that the incidence of chronic pain is tied to financial compensation..." (p. 119). This appears to be saying that the existence of a compensation program is unlikely to "cause" someone to develop chronic pain disability, but it can influence the outcomes once the disability exists.

The report goes on to summarize a number of (not always consistent) observations derived from the literature.

Compensation may be a marker for those patients who by virtue of the severity of their injuries, coping skills and/or work situation are more likely to remain disabled. They are more likely to seek compensation to attempt to replace lost wages. For instance, Leavitt (1992) pointed out that compensation patients usually have heavier physical jobs, are generally younger, male, less educated and of a lower social class. Waddell (1998) in discussing this topic notes, "They form a very different occupational, social and economic group. Their selection and referral patterns are quite different. These differences may have more direct and much greater impact on their clinical progress and return to work than compensation itself". However there is conflicting evidence on this. Dworkin et al. (1985) found that employment status has most effect on the outcome of pain management, and compensation on litigation did not add anything. Sanderson et al. (1995) found that both unemployment and compensation affected disability, but employment status was most important. Leavitt (1992) showed the importance of job demands. Nevertheless, he found that work-related injury and compensation led to more prolonged disability, even after allowing for job demands (p. 119).

This section of the report concludes by stating that compensation influences chronic pain disability particularly for middle income workers.

What to make of this?

Of the factors examined so far as potential "causes" of chronic pain disability, outside of the workplace injury itself, the impact of compensation availability seems to be the area

where studies show the most, if not completely, consistent results. One must be careful, however, not to let this finding bolster negative stereotypes.

The panel cites a 1996 Michigan study of return to work of over 8,000 compensable back injuries in which it was suggested that:

For those patients in the chronic phase... the effect of compensation was such that workers in the low wage category returned to work sooner because they could not afford to stay off (replacement wage not enough). Workers with high wages returned to work sooner because they could not afford to stay off (they lost too much money because they were at the maximum replacement dollar amount). The result suggested a "U-shaped risk" in rates whereby compensation had its greatest impact on first return to work for those individuals in the mid-wage region where the replacement wage was sufficient to live on, [and] the loss of income was relatively less than those with higher wages (p. 122).

The report goes on to cite another study (Rainville) that "provides limited evidence that compensation is associated with a poorer prognosis of lower back pain disability in workers..."

The Rainville (1997) study also reported that, "on average, patients with compensation... were less educated [and] worked more medium/heavy jobs... (p. 122)." The same finding was noted by Levitt (1992).

If findings are considered alone and out of context they do tend to conjure up a negative image of a certain type of worker prone to use the compensation system as an escape from unwanted labour. But other studies forestall any such conclusion.

A Netherlands 1995 study reported on variables associated with the duration of low back pain disability among dentists, veterinarians, physicians and physical therapists.

Interestingly, they exhibited the same behaviour relative to their compensation plans, as the workers in the other studies. "The high and low levels of private compensation were associated with similarly high rates of return to work when compared to the middle levels among self-employed workers (p. 122)." As well, the Buttler (1995) and Johnson (1998) studies show that such behaviour is not confined to chronic pain claimants.

It may be argued that these studies show a pattern, not of people "taking advantage of the system," but of individuals, be they labourers or doctors, making a rational assessment of personal risk relative to their disability and income. Where there is a significant gap between disability compensation and income, whether at the high or the low end, it would not be surprising that an individual, acting as a "rational person" in the economist's sense of the term, would be prepared to accept a certain level of personal health risk in order to eliminate the income gap. Conversely our "rational person" would be less likely to take the same risk if the income gain was small or marginal.

Is science going to discover a physical cause for chronic pain?

This question is taken up in Part Three, Section I of the scientific panel's report, which states:

Soon it will no longer be considered appropriate to report that the aetiology of chronic pain is unknown. Impressive advances have been made in our understanding of the neurobiology of chronic pain. It is the purpose of this [section] to document these advances and to try to make sense of them (p. 22).

It is noted that in this newly developing field it is not possible to identify scientific literature in the same way as the Institute did for the other sections of the report. However, the author feels that, with the assistance of experts in the field, he was able to unearth articles of comparable quality to construct an adequate review of the emerging evidence. He concludes that:

Use of highly rigorous diagnostic techniques in highly selected patients with chronic neck and low back pain has suggested that contrary to popular belief, the majority may have spinal sources of their pain. Central activation in the spinal cord and brain likely plays a significant part in a variety of other non-physiological pain states, regional pain states and fibromyalgia... For the first time, based on research findings, we can provide rational explanations for the pain associated with previously puzzling chronic pain states such as chronic low back pain, whiplash, fibromyalgia and regional pain states (p. 39).

Prevention/treatment/management

The remaining parts of the scientific panel's report deal with prevention, treatment and management of chronic pain. These findings hold the most promise for containing compensation costs.

Dr. Neilson notes in his section titled "The Concept of Pain"

Even now there is a tendency to view pain dualistically: as either purely psychological (e.g., "psychogenic", "functional"), or purely physical, with psychological processes seen as mere reactions to pain. This approach is particularly true regarding chronic pain. Whether couched in terms of medical iatrogenicity (e.g., Hadler 1996; Bohr 1996), psychopathology (e.g., Hudson & Pope 1989; Ford 1997), or as simply a learned behaviour (Fordyce 1995), the view that chronic musculoskeletal pain is principally a psychological phenomenon continues to have adherents... [but] the available evidence clearly suggests that simplistic concepts of pain as either physical or psychological in nature have outlived their usefulness (pp. 4, 8).

It appears that the persistence of this view has implications for the assessment and treatment of pain. This results in a tendency to dismiss the social and psychological factors that play a role in pain as merely reactions to pain and, in so doing, miss opportunities for improved prevention and treatment.

Can chronic pain be successfully treated?

For treatment, the panel looked at the wide range of interventions that are in use for chronic pain. These were manipulation and mobilization; exercise; systemic drugs; injections and surgery; acupuncture, transcutaneous nerve stimulation and laser therapy; biopsychosocial therapies; traction; music therapy; light therapy and back supports; and disability management interventions.

On the whole, there was considerably more research conducted on treatment than on aetiology. However, as with aetiology, the majority of the evidence was limited (level 3), some was inadequate (level 4a) and some contradictory (level 4b). Strong evidence (level 1) of treatment effectiveness was absent. The panel found moderate evidence (level 2) that some treatments are effective in relieving pain or assisting return to work; but no one optimal method emerged. Rather, it seems effectiveness varies with the type of patient, the timing of the treatment and the nature and severity of the worker's condition.

Overall, the panel noted that, for most patients, a multidisciplinary approach to treatment is more effective than single interventions in dealing with the multifactoral nature of chronic pain. Among the effective treatments (for which there was moderate evidence of a positive outcome) are multimodal biopsychosocial therapy for chronic musculoskeletal pain and chronic low back pain; exercise and manipulation for chronic low back pain; oral opioids for chronic musculoskeletal pain and modified work programs for chronic pain disability.

The panel also found that some interventions are apparently harmful and to be avoided. These are antidepressants for chronic low back pain in the short to intermediate term and traction for chronic neck and chronic low back pain in the short term.

Is chronic pain inevitable?

The panel found that research into the prevention of chronic pain was sparse. As a result, it relied on recommendations from expert consensus reports to formulate its observations. The panel concluded that:

Early appropriate acute pain management, including adequate explanations to the patient, is likely to reduce the severity of acute pain. This early treatment may also lessen the likelihood of changes in the spinal cord and brain that are involved in the transition to chronic pain. Early identification of risk factors may enable those involved in clinical pain management to consider these factors when making recommendations to the patient.

VII. SUMMARY - POLICY REPORT

Introduction

After meeting a number of times, beginning in April 1999, reviewing the scientific panel's August draft report and conducting public hearings in September 1999, the policy panel met for two days in early October 1999 to work out its conclusions and recommendations. These are contained in the *Report of the Chronic Pain Policy Advisory Panel*. A summary of the report follows. The Chair's discussion of this report can be found in the next chapter. The members of the Chronic Pain Policy Advisory Panel were:

Chair Mr. Brock Smith

Mr. Phil Biggin, President
Union of Injured Workers of Ontario Inc.

Ms. Mary Cook, Managing Director
Occupational Health Clinic for Ontario Workers

Dr. David Corey, Ph.D., President
Health Recovery Group

Mr. David Craig, Executive Director
Brampton Community Legal Services

Dr. Edward Gibson
Occupational Health Physician

Ms. Sherri Helmka, Executive Director
Employers' Advocacy Council

Ms. Kim Hopps, Policy Adviser
Management Board Secretariat

Mr. Gerry Le Blanc, Project Co-ordinator
United Steelworkers of America

Ms. Tracy McPhee
Associate, Labour & Employment Law
McMillan Binch
(Representing the Alliance of Manufacturers & Exporters)

Ms. Denise K. Peters
The Denfram Group
(Representing the Council of Construction Associations)

Ronald R. Tasker, MD. MA. FRCS(C)
The Toronto Hospital, Toronto Western Division

Summary

The policy panel consisted of employer, worker and medical representatives. It was asked to recommend policies and strategies for the prevention, management and compensation of chronic pain using the findings in the scientific panel's report. In developing the policy recommendations, the panel also considered information about the legal requirements concerning the chronic pain provisions in the *Act*, the number and cost of chronic pain injuries at the WSIB, the management of chronic pain claims by private insurance companies, the disposition of chronic pain cases in the courts and submissions from stakeholders who responded to the panel's request for comment. Its recommendations are summarized below.

Prevention/Management

Recognizing that management of the acute and early chronic phases of pain is pivotal to preventing the deterioration to chronic pain syndrome, the panel considered the prevention and management of chronic pain together in formulating its recommendations. Mirroring the WSIB's overall vision, the recommendations began with the panel's vision for chronic pain as follows:

- There will be a system of prevention and education, which will eliminate chronic pain disability from work-related injuries or illnesses by 2005.
- Where chronic pain disability has not been prevented, this system will minimize it to the greatest extent possible.

Achieving this vision will require the co-operation and collaboration of workers, co-workers, worker representatives, employers, health care practitioners, researchers and the WSIB. Accordingly, the panel set out detailed roles and responsibilities for each of these parties.

For the prevention and management of chronic pain, the panel recommended that the WSIB:

- Prevent the initial injuries that most often result in chronic pain (primary prevention) through education of employers, workers and health care providers, and
- Improve management of the acute and early chronic phases of the injury to prevent chronicity (secondary prevention) by adopting
 - a decision-tree approach to the management of chronic pain,
 - an evidence-based approach to the treatment of chronic pain, and
 - a multi-dimensional approach that also responds to the non-medical issues that arise.

The panel also recommended that the WSIB prioritize chronic pain research on the Research Advisory Council's agenda.

Compensation

First twelve months

For compensating chronic pain during the first 12 months after the injury, the panel recommended that:

- at four to six weeks after the injury, a nurse case manager should evaluate the worker's condition and, if warranted, refer the worker to a multi-disciplinary team for assessment and treatment, and
- at three to six months after the injury, a multi-disciplinary team should reassess the worker's condition to provide advice on treatment.

These assessment and treatment strategies would proceed concurrently with other prevention/management initiatives that are in progress. For compensating chronic pain after the first 12 months, the panel, unable to reach a consensus, developed two options and accompanying definitions.

Option A

Under option A, chronic pain is defined as

pain that persists beyond the usual recovery time, or for six months after an injury, whichever is sooner; this may continue in the presence or absence of demonstrable pathology.

At 12 months after the injury, the worker would undergo a multi-disciplinary rating of the permanent impairment that would recognize both the organic impairment and the chronic pain in the rating. Otherwise, injured workers with chronic pain would continue to receive the same benefits as any other worker under the Act.

A "sunset" review would be conducted 5 years after the implementation of the option A regulation. The review would consider the effectiveness of the prevention and management strategies, new scientific evidence about the work-relatedness of chronic pain and developments in the courts concerning workers' compensation law.

Option B

Under this option, benefit limits are proposed and the panel discussed whether to restrict the definition of chronic pain to only those cases where demonstrable pathology is absent. On the one hand, there was concern that such a restriction would lead to an inappropriate focus on proving that the condition is organic at the expense of the prevention and management of the pain. On the other, there was concern that by omitting the restriction, benefit limits would apply to workers with observable tissue damage that explains the pain.

To address these concerns, two definitions were proposed. The first definition would guide decision-making concerning the prevention and management of chronic pain and seek to ensure that early intensive measures are taken. It also seeks to ensure that all who would benefit from these measures are afforded an opportunity to receive appropriate attention.

For prevention/management purposes under this option, chronic pain is defined as

pain that persists beyond the usual recovery time, or for six months after an injury, whichever is sooner; this may continue in the presence or absence of demonstrable pathology.

For compensation purposes, chronic pain syndrome is defined as

pain that continues for 12 months after the usual recovery time and for which there is no demonstrable pathology that explains the pain.

A worker who continues to report pain beyond the usual recovery time of the injury would be eligible for a pain management program which could continue for up to 12 months and would include appropriate therapy and labour market re-entry (LMR) services as required.

This policy would not be fully implemented until the completion of a "sunset" review by the end of 2002, which would examine up-to-date clinical and scientific evidence on the aetiology of chronic pain. If such a review could not support the implementation of this option, then option A would be preferred. Until 2004, no chronic pain benefits would be curtailed. Rather, after the 12-month period, benefits would continue in the form of an LMR program that could continue for up to three years.

VIII. CHAIR'S DISCUSSION - POLICY REPORT

As chair I thought it would be useful for me to summarize the history of the policy panel. As in the case of my discussion of the scientific panel report, the views stated below are strictly my own and have not been vetted by panelists or Board staff.

The policy panel was able to reach consensus for the prevention and treatment of chronic pain. These were summarized in the previous chapter of this report.

Compensation

The panel was unable to reach a consensus with respect to compensation. Instead it developed two options: Option A would be to continue with the current system of compensation and improve upon it through earlier intervention and better treatment; option B agrees that there should be earlier intervention and better treatment but would limit overall benefits to 12 months after the normal healing time. Both "sides" of the compensation issue felt that the scientific report supported their position but neither cited specific sections of the report in this regard. Proponents of option B are prepared to see its full implementation delayed for three years pending another scientific review.

September public hearings

By and large, submissions came from four sources: injured workers, advocates for injured workers, clinicians and employer representatives. Their combined recommendations for improving the system are summarized in the policy panel's report. Below is a brief summary of the advice received from each of the four groups.

Injured workers took issue with what they perceived to be the many flaws in the current system of chronic pain compensation. Many believe that there is still a stigma associated with the condition forcing injured workers to "prove" their pain to Board adjudicators. Those managing to get beyond this threshold, often through the appeal process,

complained of low awards, inadequate treatment and therapy, the cost and availability of drugs and poor return to work practices.

The panel received many submissions from worker advocates. A number of them focused on section 14 of the *Workplace Safety and Insurance Act* arguing that it permits, but does not compel limitation of chronic pain disability compensation. It is argued that had mandatory limits been the intention of the Legislature it would have inserted words such as "must" or "shall" as it did in other parts of the *Act* and therefore the Board is not bound by section 14 to limit benefits.

Stakeholders in favour of the current policy regime advanced three additional legal arguments. These related to the so-called "thin skull" principle, jurisprudence outside of workers' compensation and civil suits as an alternative to compensation.

The Office of the Worker Advisor's (OWA's) brief states that,

With respect to the question of the thin skull principle or what is sometimes referred to as the frail spirit, the law continues to recognize that the courts and the compensation system must take their plaintiff/injured worker as they find them (p. 15).

This principle, it is argued, addresses the possibility that factors independent of the work injury may influence the occurrence and development of chronic pain. Another brief, from the IAVGO, dealing with the same point, argues a limitation of benefits could give rise to a Charter of Rights challenge and that the possible arguments available to the Board, such as medical evidence and cost, would be insufficient to sustain its position.

Recent decisions in tort law were also cited in support of the current compensation policy.

It is interesting in reviewing civil decisions in the personal injury context to see the parallels between the courts' current response to claims for chronic pain syndrome and the reasoning set out in Decision No. 915. In short, the courts have come to accept chronic pain disabilities as compensable in personal injury cases and no distinction is made in law between purely physical injuries and chronic pain type injuries (OWA, p. 16).

This leads to the next legal argument advanced by worker advocates which is that the limitation of chronic pain in the compensation system will lead to civil litigation with its attendant risks and costs.

Another point raised by this group of stakeholders (as well as by the employer representatives) was the definition of chronic pain in the scientific panel's report which was thought to be too broad if the Board were to restrict chronic pain benefits.

Many of the briefs from worker advocates favoured maintaining the current policy framework as well as improving prevention, education and, in particular, return to work practices which, it was argued, are currently too harsh and inflexible.

A number of clinicians made submissions to the panel and primarily focused on treatment models rather than compensation. Some expressed optimism that the new nurse case managers would help to reduce the incidence of chronic pain disability.

The panel received two submissions from employer representatives and one from a claim management firm that acts for employers. The Employers' Council of Ontario recommends narrowing the definition of chronic pain and where it can be attributed to a work injury allowing benefits for up to six months. They also advocate that employer costs be spread over the sector or rate group. The claim management specialist noted that chronic pain disability is best avoided through early recognition and return to modified work.

The Courts

The panel sought and considered information concerning chronic pain cases in the courts and any comparisons that can be drawn to the workplace safety and insurance context. This is summarized here.

Under section 14, the Board is authorized to address three issues in a chronic pain regulation. These are,

- (1) a specific definition of chronic pain
- (2) a description of the circumstances in which the worker is entitled to benefits and
- (3) limits or exclusions in relation to benefits, if any

The panel learned that the courts deal with chronic pain cases in the same way that it deals with all other cases involving physical and psychological injuries. That is, the courts cannot, and do not, require medical evidence that proves clearly and unequivocally that the chronic pain was caused by the defendant and the defendant alone. Rather, the courts review all the evidence, including the medical evidence, and determine, on a balance of probabilities, whether the injured party has proved that there is a causal connection between his/her chronic pain and the defendant's actions. The fact that there may be other factors that contributed to the chronic pain is not relevant, provided the court is satisfied that the defendant's actions made a material contribution.

However, this test would vary slightly in the workplace safety and insurance context because there is no burden of proof on either the worker or the employer. Applying the courts' approach in this context, it would be the duty of the decision-maker to review all the evidence, including the medical evidence and to decide whether there is a causal connection between the workplace injury and the chronic pain.

Establishing the existence and cause of chronic pain, however, is not automatic in the courts. They have required plaintiffs to establish "clear and convincing evidence" that

their condition is solely rooted in the defendant's action or that it played a major role in triggering a pre-existing condition. Where a psychological problem is dominant as a pre-existing condition and the injuries sustained in the accident are trivial, the accident is no longer considered to be a sufficient cause in law to support an award of damages.

Costs

Financial projections of the cost of chronic pain entitlements have varied considerably in recent years. An appendix to the policy panel's report contains a memorandum from the Board's chief actuary that outlines a number of projections of the cost of chronic pain compensation. The chief actuary's memorandum points out that the high-end projection of \$1.4 billion in the Jackson Report was based on certain assumptions with respect to lost time injuries, the rate of inflation and so on. If those same assumptions for lost time injuries and benefit payments are coupled with updated economic assumptions, the corresponding amount is reduced to \$632 million.

When updated economic and actuarial assumptions for lost time injuries and benefit costs are used, the 2014 costs are projected at less than \$100 million.

General

As noted, the panel could not come to a consensus agreement on compensation and presented two options instead.

I would summarize the arguments in favour of option A as follows.

"This matter was fully reviewed in the context of WCAT Decision 915 which accepted that chronic pain disability should be compensated as any other workplace injury. The *Act* does not require benefit limits. No conclusive evidence is advanced by the scientific panel to show that chronic pain is caused by factors independent of the work injury and the report cites new research that may eventually show chronic pain to be an organic condition. The Canadian courts are increasingly recognizing chronic pain as an injury in itself that can attract damages. Earlier cost estimates of chronic pain compensation have been drastically reduced. While the WSIB can do a much better job in the early recognition, treatment and return to work aspects of chronic pain, this should be done within the current policy framework."

I would summarize the arguments in favour of option B as follows.

"WCAT Decision 915 has forced Ontario employers to shoulder an ongoing financial obligation, of uncertain proportion, to pay for long term chronic pain disability cases arising from at best a medically tenuous connection between pain, with no apparent organic cause, and a workplace injury or activity. Research results concerning the possible organic basis of chronic pain are still speculative. The scientific report, while not conclusive, shows that there are factors independent of the work injury that can influence the course of chronic pain. This should be enough to give pause until more

research can be done. The spirit if not the letter of the *Act* clearly is for limiting benefits for chronic pain. The priorities for the Board ought to lie in prevention, treatment and return to work. The courts recognize chronic pain as a compensable condition but demand very strict tests before making even partial awards. Cost estimates may have decreased but they are highly uncertain and still in the millions."

Further consultation

The policy panel's report was sent to stakeholders for comment during spring 2000. The Board received over 200 submissions from individuals and organizations with the vast majority coming from injured workers and employee advocates all supporting option A. Not unexpectedly, the scientific panel's report was interpreted in different ways to support various positions. Submissions dealt not only with compensation, but also with prevention, treatment and legal issues. A summary of all of the submissions follows in Appendix A.

Conclusion

In conclusion, the initial push for limits on chronic pain compensation arose from two factors. First, there was the perception that the cost of compensating chronic pain was rising at an alarming rate. Second, there was a widely held view that chronic pain was more psychological than physical in nature and was caused, in large part, by factors external to the actual workplace injury.

Claims administration trends, new actuarial assumptions and extensive scientific review have altered this picture according to the data reviewed by the policy panel. The annual number of chronic pain disability claims fell from almost 1500 in 1990 to fewer than 100 in 1997. Under revised actuarial assumptions, the cost to the WSIB of providing benefits to 2014 falls to under \$100 million compared to the \$1.4 billion projection in the Jackson Report. Scientific review has yielded a plethora of data but no conclusive evidence with respect to causation. However, it appears that a much better understanding of treatment methods is being developed.

It would be difficult to support, on the basis of the existing scientific evidence, any limitation of benefits for chronic pain disability as envisaged by section 14 of the *Act*.

However, there still remains the issue of cost. While the projections show a major decline, the cost of chronic pain disability is still significant, not only in dollar terms but also in the suffering it entails. With regard to a containment strategy, the scientific panel's review points in the direction of better early treatment. This is an area in which progress is being made in identifying effective treatment modalities.

Recommendations

It is recommended that:

- (1) The *Workplace Safety and Insurance Act* and the Workplace Safety and Insurance Board treat and underwrite chronic pain as they would any other workplace injury or illness.
- (2) The Board require that an internal group investigate and report on implementing the policy panel's consensus recommendations for more effective treatment, management and return to work strategies and a revised approach to rating permanent impairment.
- (3) The Board conduct a review in five years to assess the effectiveness of the prevention and management strategies that are implemented, new scientific evidence about the work-relatedness of chronic pain and developments in the courts concerning workers' compensation law.
- (4) The Board support continued research into the treatment and management of chronic pain.

APPENDIX A

***Consultation Report -
Summary of the Chronic Pain Initiative's
April - June 2000
Consultation Results***

*Summary of the Chronic Pain Initiative's
April – June 2000
Consultation Results*

In February 2000, the chronic pain scientific and policy panels completed their respective reports for the Chronic Pain Initiative. The reports contained consensus recommendations for the prevention, treatment and management of and research into chronic pain. The policy panel, however, could not reach agreement on the compensation issue and developed two options instead. Under option A, benefits would continue for as long as the disability lasts. Under option B, benefits would end at 12 months after the injury. In response to requests from stakeholders for additional opportunities to contribute to the Chronic Pain Initiative, the WSIB asked the panels' chair to consult with the wider stakeholder community before preparing the final report. The consultation period ended on June 16, 2000 and the responses received are summarized below. This summary attempts to capture the range of views that were expressed and, as much as possible, the way they were expressed in the submissions.

Almost 200 individuals and/or organizations provided written submissions and over 700 individuals signed petitions in response to the consultation. In all, there were seven submissions supporting option B, six supporting neither option and the remainder including all of those who signed the petitions supporting option A. A full list of those who provided written submissions follows this summary.

Among those who favoured option A, the largest number of responses came from injured workers. Many told us about their pain and the impact of that pain on their lives. Some told of their difficulties with the WSIB's management of their claims. Submissions were also received from injured workers' spouses, friends and injured workers representatives and organizations. Supporters of option B were employers or employer representatives. Their concerns stemmed largely from the uncertainties surrounding the condition. Most who supported neither option were from the medical community whose comments focused largely on specific aspects in the treatment and management of chronic pain. The comments received have been organized into the following categories:

Cause of chronic pain (and other scientific issues), prevention/early intervention, treatment/management, appeals tribunals, courts and other jurisdictions, compensation (under what circumstances, with what limits), benefits, cost, and research.

Cause of chronic pain (and other scientific issues)

Option A

- the scientific evidence shows that chronic pain is real and is not caused by psychological factors

- psychological factors play the same role in chronic pain that they do in all other injuries and diseases – they can prolong or complicate recovery
- pain does not go away if the patient would just get a strong character
- it is illogical to suggest that chronic pain is somehow separable from its organic causes, but is it fair to state that work injuries may not always be the sole or primary cause of chronic pain
- the policy panel misunderstood the evidence on the pathophysiology of pain and the solid scientific basis on which it rests
- there is sound evidence of a physiological basis for chronic pain and in ignoring this, proponents for option B are acting like tobacco executives
- the scientific report does not support the view that compensation makes chronic pain worse
- the findings on the relationship between duration and level of compensation applies to all claims, whether objectively verifiable or not and is therefore no reason to treat chronic pain differently

Option B

- episodes of chronic pain are rare but legitimate conditions
- lifestyle is playing an increasing role in the kinds of injuries and recovery times being experienced by injured people today
- if chronic pain is not attributable to a cause in pathology, would it not be correct to attribute the chronic pain to a cause in psychology
- chronic pain cannot be objectively verified as a result, compensating chronic pain could open the system to overuse and even abuse
- chronic pain is likely the result of natural aging and would have occurred with or without the injury
- the WSIB should be using the most recent edition of the AMA Guidelines (the 4th rather than 3rd edition) as a guide for developing usual healing times

Neither Option

- pain does result from injury
- the scientific panel's report omitted several high quality articles that, among other things, would have shown that chronic pain is well defined in some literature and that there are objective tests available for diagnosing pain

Prevention/Early intervention

Option A

- the focus should be first on prevention and if prevention is not possible, on early identification and treatment as recommended by the panel

Option B

- incidents of chronic pain and chronic pain disability can be essentially eliminated through better diagnosis and treatment at the front end of an injury
- the prevention of chronic pain should be the primary objective of everyone involved in the care of the worker

Neither Option

- improved early management is clearly the way to go in order to avoid chronicity

Treatment/management

Option A

- the WSIB needs to adopt flexible treatment policies because the evidenced-based approach to treatment is only useful for treatments that are well-researched; when evidence is lacking, clinicians must rely on their best judgement
- WSIB's treatment policies cannot rely solely on evidence-based plans but should also support flexible treatment plans that are tailored for the individual patient
- WSIB should allow access to pain management programs on more than one occasion, if necessary; rigidity would be self-defeating
- the adjudicator and WSIB physicians should not be able to override the opinion of a worker's treating physician
- in Northern Ontario, access to health care and specialists is particularly difficult

Option B

- prevention and early intervention by qualified multi-disciplinary medical professionals are important
- the nurse case manager should be in consultation with the worker's primary physician as early as possible, rather than limited to the defined times recommended by the panel in order to recommend, where warranted, the intervention of a multi-disciplinary team
- there should be at least two multi-disciplinary evaluations of the worker
- validity indices need to be built into the testing both from a physical and psychological perspective
- physicians have very little experience with chronic pain and their interests conflict with those of employers; that is, when the pain ceases, compensation for the worker ends and the physician loses a source of income – in such circumstances, the employer is powerless to reduce costs or return the worker to work
- to resolve this, the nurse case manager should have the final decision; passive monitoring by the WSIB should be avoided
- an algorithm for the treatment of injuries should be provided to all parties at the time of diagnosis to more clearly and effectively communicate the nature of the injury, its recommended treatment and expected recovery time – to assist in the worker's early and safe return to work

Neither Option

- adopting the treatment/management recommendations will result in a more equitable system and decrease expenditures on costly unproven treatments
- more clarity in explaining the criteria to use in assessing treatment effectiveness is needed
- differentiation between outcomes such as pain reduction, decreased use of medications, increased activity, decreased use of health care, return to work or patient satisfaction is important
- there is a need to match treatments to the characteristics of the worker because workers are not uniform

- the scientific report did not mention that injections do bring relief for cervical spinal pain and cervicogenic headaches
- likely many treatment modalities were not found to be beneficial because the highest quality research is performed in large centres where wait lists frequently exceed two years and the subjects studied have reached the intractable stage
- the focus on pathophysiological explanations for pain undermines rehabilitation efforts, leads to a never-ending quest for cure over self-management of the pain and leaves the worker in a passive role that encourages doctor shopping
- treating psychosocial issues is as important for chronic pain as it is for tuberculosis or asthma, it helps the patient to cope; but for full recovery, the need to uncover and treat the underlying condition remains

Appeals tribunals, courts and other jurisdictions

Option A

- proponents of option B are ignoring or are unaware of the fact that in workers' compensation law, all that is required is evidence of a significant contribution, not clear and convincing evidence
- the Workers' Compensation Appeals Tribunal panel that rendered decision 915 included two employer and two worker representatives who unanimously held that chronic pain should be compensated and the reasons for that decision still hold
- the Nova Scotia Workers' Compensation Appeals Tribunal (WCAT) recently ruled that provisions in Nova Scotia that limit benefits for chronic pain are unconstitutional and it remains to be seen whether the courts will support the Tribunal's decisions on these cases
- in two decisions this year, the Supreme Court ruled that disability need not result solely or directly from the work injury to draw compensation; in the specific cases, though the disabilities resulted from negligent medical care rather than directly from the work injury, the workers could not sue the negligent physicians because their disabilities were considered compensable

Option B

- the tribunal's decision should not be viewed as the authority or referred to in the development of Board policy

Compensation (under what circumstances, with what limits)

Option A

- the rationale for omitting benefits in the Jackson Report was not supported by the Murray report in Nova Scotia, nor is it supported by the scientific panel
- before limiting compensation for chronic pain disability beyond 12 months, there must be clear evidence that it is never caused by work injuries beyond 12 months, otherwise, each claim should be adjudicated on its individual merits
- work injuries clearly play a role in the development of chronic pain so it should be compensated and, consistent with one of the principles set out in the Meredith Report, for as long as the disability lasts
- demographic pre-disposition is no bar to compensation because of the thin skull principle

- limiting compensation would have the following results:
 - undermine the potential of the prevention/management recommendations
 - decrease the WSIB's incentive to expend resources on treatment at the very time that workers need help because they often do not have the motivation or insight to overcome the condition
 - drive the condition underground which will be accompanied by adjudicative confusion and wasted time and money
 - remove injured worker's incentive to co-operate
- s.14 of the Act does not require limits and by not proclaiming s.14, the government has acknowledged the concerns of the scientific and medical community with the whole concept of treating chronic pain disabilities differently than other disabilities
- if benefits for chronic pain are limited, then workers will be able to sue their employers directly for benefits for chronic pain
- limiting benefits would also leave the section open to challenge on charter grounds and such challenges have already succeeded at the Nova Scotia WCAT
- if benefits cease, workers will be forced onto other loss income providers or poverty
- there is a 2 year wait list for pain clinics which would mean that benefits would end before claimants are able to receive treatment under option B

Option B

- the workplace safety and insurance system should only compensate direct injuries sustained in the course of employment
- s.14 clearly requires that the WSIB adopt a new policy that limits chronic pain, if the status quo were acceptable, s.14 would not have been written
- the WSIB should close benefits when the injury heals
- compensation should be limited to six months beyond the usual healing time
- a worker should be eligible for appropriate management programs, as required, for a period not to exceed twelve months after the usual healing time
- entitlement to compensation should cease 12 months after the date of injury
- given that there is a relationship between compensation and duration, it is supportable to compensate work related chronic pain/chronic pain disability at the current rate with fair and equitable treatment, however time limits must be imposed
- there is every reason to believe that chronic pain/chronic pain disability is a multi-factorial problem that does not lend itself to the traditional manner by which the WSIB compensates injured workers
- perhaps it is time for the WSIB to recommend to the government a list of injuries (backs, knees, elbows, hand) for which apportionment, in relationship to lifestyle choices and activity, is appropriate
- the WSIB should complete the legal and scientific review without delay rather than wait until 2004 and limit chronic pain compensation as soon as possible

Benefits

Option A

- the WSIB should consider chronic pain in making decisions re FEL (future economic loss), NEL (non-economic loss), SEB (suitable employment or business) & ESRTW (early and safe return to work); i.e. a NEL that recognizes chronic pain should trigger a FEL reassessment.

- the panel's recommendation respecting the NEL rating should be amended to require that the WSIB recognize the organic impairment and the *consequential psychological impairment* (rather than chronic pain) that results from chronic pain; otherwise it leaves the impression that chronic pain is a psychological phenomenon

Option B

- a multidisciplinary team assessment for rating a worker's permanent impairment would be more appropriate than the subjective approach currently used
- the WSIB should not recognize both the organic impairment and the chronic pain in the NEL rating because the current method of permanent impairment rating for chronic pain adequately compensates for this condition

Cost

Option A

- the cost of compensating chronic pain is negligible and limiting compensation for chronic pain would not have a significant impact
- fiscal responsibility is an important goal of both government and the WSIB, but should not take precedence over both the scientific evidence and the genuine needs of injured workers

Option B

- it would be financially irresponsible for the WSIB to continue to compensate chronic pain/chronic pain disability in the same manner as all other workplace related claims
- if there is no way of objectively determining whether or not any chronic pain actually exists then there is no way of determining whether or not fraud is taking place
- chronic pain should not be included in experience rating calculations

Research

Option B

- research into chronic pain/chronic pain disability should continue; however, the research scope, size, methodology and scientific design should be of the highest quality
- the research should be broad-based, or conducted in parallel, focusing on the multi-dimensional nature of pain and should assess the clinical importance of the evidence as well as its statistical significance

Neither Option

- prioritizing good clinical research is essential

Chronic Pain Consultation 2000 - Submissions from Companies/Organizations

The following companies and/or organizations supplied written submissions in response to the request for feedback. Those that wrote in support of option A are listed first followed by those that wrote in support of option B and finally, those who supported neither option.

Option A

CAW - TCA Canada, Local 40
CAW - TCA Canada, Local 1996
CAW - TCA Canada, Local 707
Communications, Energy & Paperworkers , Local 304
Communications, Energy & Paperworkers Union of Canada, Local 32
Community Legal Services
Canadian Union Public Employees, Local 1750
Canadian Union of Postal Workers, Ontario Regional Office
Disabled Workers' Complex Case Network
Durham Region Injured Workers
Fink & Bornstein
Hamilton Mountain Legal & Community Services
Industrial Accident Victims Group of Ontario
Injured Workers' Consultants
Injured Workers' Resource Centre
Kelly, Howard & Santini Barristers & Solicitors
Kitchener Waterloo Cambridge Injured Workers Group Inc.
Link With Work
London District Ontario English Catholic Teachers Association
Nipissing Community Legal Clinic
Office of the Worker Advisor
Ontario Federation of Labour
Ontario Nurses' Association
Ontario Physiotherapy Association
Ontario Psychological Association
Ontario Professional Firefighters Association
S.D. & G. Resource Centre for Injured Workers
Service Employees International Union, Local 204
Transportation Communications National Almalgamated, Local 1976/United
Steel Workers of America, Unit Lodge # 650
The Rehabilitation Centre
The Renfrew County Community Injured Workers Support Group
Toronto RSI Support Group
Toronto Workers' Health & Safety Legal Clinic
UCTE-PSAC, Local 00056
United Food and Commercial Workers, Local 1000A
Union of Injured Workers
United Steel Workers of America, District 6

United Steel Workers of America, Local 6398
United Steelworkers of America, Local 6500
University of Western Ontario, Dr. H. Mersky

Option B

Alliance of Manufacturers & Exporters Canada
CanAmera Foods
Employers Advocacy Council
Employers' Council of Ontario
Global Upholstery Co. Inc.
Ontario Mining Association
Stelco, Hilton Works

Neither Option

Anaesthesia and Chronic Pain Management, Dr. E. Nergard Thompson
Rothbart Pain Management Clinic & Chronic Pain Section, OMA, Dr. G. Gale
Ministry of Health & Long-term Care
University of Washington, Dr. D. Turk

Chronic Pain Consultation 2000 - Submissions from Individuals

The following is a list of the individuals who supplied written submissions. Those that wrote in support of option A are listed first followed by those that wrote in support of option B and finally, those who supported neither option. An additional 700 individuals signed petitions in support of option A.

Option A

Domenic Acierno
Nazar Al-Alawi
Rodica Ancuta
S Andersen
Tim Arenburg
C. J. Argyle
Eleanor Auguire

O. Bailey
Michel Belanger
Mario Berardi
Carmelo Beroroli
Enrico Bianchini
Peter Bird
Dan Borthwick
Elvira Bosco
Michelle Bouchard
Alex Bradley
C. Branca
Wendy Brodie-Brown
Christine Brown
Rick Brown

Antonio Carnevale
Peggy Caron
C. Chenier
Roger Choquette
Avis Christie
Keith Christie
Jean-Guy Compeau
Patrick Cook
Dave Coulthard

Denzil D'Souza
Roland Dagenais
Joanne Delorme
Demitra Dimopoulos
Gerault Dismayers

Scott Dorman
G. Douvis
Orville Dred
James Duvall

C. Eisenzopf
Mario Espinoza
B. Evans
Jaimie Ferguson
Ann Fortier
Michel Fortier
Cynthia Fox
E. Anna Gamarilli
Jennifer J. Gilland
W. Gilles
G. James Gillespie
Donna Gjunner

Greg Halk
Phil Hames
Bernie Hamilton
Howard Hampton
Shawn Harrop
V. Heimpel
Jaime Hernandez
Mike Hines
David J. Hrynkiw
Won Jean Hung

Lois Jackson
Narinder Jawanda
D. Jennings
Ben Kelly
Albert Kindred
John Korteweg
J. Kotsis-Wilder
Michael Lago
Dom Lalande
Don Lawrence

A. Macchione
G. Macchione
Glen MacMillan
Lawrence MacNeil
Bruce MacRobie
Mukhtar Malik
S. Manoll
Catherine Marneris

Riccardo B. Martin
Louis McCarthy
Ruby McIntee
Richard McKinnon
R. Mohammed
Laura Murr

A. Noel
A. Pavela
Jenny Pearson
D. Petropoulos
Hugo Pijal
Edith D. Pike
Glenn Porter
M. C. Poulos

Gennaro Raimondi
Nawtej Rakhre
William Richardson
Z. Robinson
Enrique Rodriguez
Erica Roth.

E. Salinas
Jessica Salinas
Julio Salinas
Jim Sawka
Jessica Schmidt
Raj Sellathurai
Satish Shonek
David St. Denis
J. Stercho
Gerald Stewart
Jean Stewart

Arlene Talbot
James Theofanis
Charoula Theofilaktidis
Scott Tracze
Lambrini Tryfonas
P. J. Turcotte

Maria-Frank Valerio
Lewin Whyte
Harvey Woodrow
Norma Wrightly

Neither Option

John Cleary, MPP
Robert McCarthy
Dave Wells

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CHRONIC PAIN

THE SCIENTIFIC AND POLICY PANELS' REPORTS

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Background - CPI

- Bill 99

S. 14

- 1) A worker is entitled to benefits under the insurance plan for chronic pain as defined in the regulations but only in such circumstances as may be prescribed.
- 2) The benefits to which the worker is entitled for chronic pain are subject to such limits and exclusions as may be prescribed

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- # Background - CPI

- Public hearings
- Independent review

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Purpose of CPI

- Assemble & analyse scientific evidence on the cause, prevention & treatment of chronic pain
- Recommend evidence-based policies & strategies for its prevention, compensation, and management



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Members of scientific panel

- Dr. Robert Bernstein, Family Medicine, Ottawa
- Dr. Claire Bombardier, Rheumatology, Toronto
- Dr. Angelica Fargas-Babjack, Anesthesiology, McMaster
- Prof. Judith Hunter, Physiotherapy, Toronto
- Dr. Klaus Kuch, Psychiatry, Toronto
- Dr. Silvano Mior, Chiropractic, CMMC
- Dr. Dwight Moulin, Neurology, Western
- Dr. Warren Nielson, Rheumatology, Western
- Dr. Robert Teasell, Physical Med & Rehab, Western
- Dr. Robin Weir, Nursing, McMaster

Findings - scientific report

- 11,565 articles retrieved, 188 met inclusion criteria and quality standard
- Findings rated by quality
 - Level 1: Strong evidence: multiple relevant, high quality RCT's.*
 - Level 2: Moderate Evidence: one relevant, high quality RCT or multiple adequate studies.*
 - Level 3: Limited Evidence: at least one relevant, adequate RCT.*
 - Level 4a: Inadequate Evidence: only one relevant low quality RCT or no relevant RCT's.*
 - Level 4b: Contradictory Evidence from RCT's.*

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Findings - scientific report

- Links supported with moderate evidence:
 - previous pain
 - longer duration of pain
 - greater intensity of acute pain
 - lack of modified work
 - lack of work autonomy
 - increasing ratio of compensation to pre-injury wage

✓

Findings - scientific report

- Psychological findings
 - no evidence psychological abnormality causes chronic pain
 - poor psychological health complicates rather than causes chronic pain

7

Findings - scientific report

- Treatments:
 - panel recommends treatments with moderate evidence of positive outcomes

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Strength of Recommendations

Recommended

Quality of Evidence

STRONG

MODERATE

LIMITED

INADEQUATE

LIMITED

MODERATE

STRONG

Outcome

Not Recommended

+

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Findings - scientific report

- Treatments with moderate evidence, positive outcomes:
- For up to six months
 - multimodal biopsychosocial therapy, oral opioids for chronic MS pain
 - manipulation for chronic low back pain
 - triamcinolone injection at site for lateral epicondylitis

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Findings - scientific report

- Treatment for up to 6 mos (cont.)
 - exercise for fibromyalgia syndrome
- For six+ months:
 - exercise, multimodal psychosocial therapy for chronic low back pain
 - standard discectomy for proven intervertebral disk herniation
 - modified work programs for chronic pain disability

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✓

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Findings - scientific report

- Ineffective treatments include -
 - Antidepressants for low back pain /short-term (2)
 - NSAIDS for fibromyalgia/medium-term(3)
 - traction (2)
 - orthoses (3)

✓

Findings - scientific report

- Summary
 - CNS can signal pain without stimuli
 - no single factor predicts chronic pain
 - intervene early, where possible
 - some treatments are effective
 - more research needed

7

Members of policy panel

- Phil Biggin, UIWO
- Mary Cook, OHCOW
- David Corey, HRG
- David Craig, Brampton CLS
- Edward Gibson, OHP
- Sherri Helmka, EAC
- Kim Hopps, MBS
- Gerry Le Blanc, USWA
- Tracy McPhee, AMEX
- Denise K. Peters, COCA
- Ronald R. Tasker, TWH

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Recommendation - policy report

- Prevention/Management
- Compensation

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Recommendation - policy report

- Prevention/Management
 - prevent initial injury
 - improve management in acute and early chronic phase (decision-tree, evidence-based, multidimensional)
 - research

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Recommendation - policy report

- Compensation
 - two options
 - one option: close benefits at 12 months (not adopted by BOD)

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Recommendation - policy report

- Compensation
 - other option: compensate like any other condition (adopted by BOD)

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- # Recommendation - policy report

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Recommendation - policy report

- Review in 5 years

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Recommendation - policy report

Definition

Chronic pain is pain that persists beyond the usual healing time or for six months after an injury, whichever is sooner; this may continue in the presence or absence of demonstrable pathology.

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BOD Recommendations - CPI

- Treat/underwrite chronic pain like other conditions
- Investigate/implement policy panel's consensus recommendations
- Review results in 5 years
- Support chronic pain research

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Chronic Pain - next steps

- Minister of Labour agrees to recommendations
- Publish report in “Clinical Journal of Pain”
- Develop program of care within health care model
- Review policy - 6 months post usual healing time - marked life disruption
- Implement program from prevention, through early recognition and preventative treatment through RTW or LMR

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MENTAL STRESS

Review of the Post- Traumatic Stress Policy Pre and Post 1998

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Stress - WCB/WSIB Policy History

- 1988 WCAT Decision No. 918
- January 1989 WCB Discussion Paper
- July 1989 WCB Options Paper
- April 1990 WCB Policy Proposal
- May 1991 WCB Policy Proposal
- Dec. 1994 BOD directs interim policy development - to be referred to Royal Commission
- Aug. 1999 BOD reconfirms psycho-traumatic stress - only where events sudden, shocking or life-threatening
- Dec. 1999 WSIAT questions whether policy and if so finds policy inconsistent with and not authorized by *Act*
- Feb. 2000 BOD - Section 126 review - no policy
- March 2001 BOD directs mental stress policy review - to address serial traumatic events - pre & post 1998

Mental Stress Policy Review

- Approached by police and firefighters
 - expressed concern about how the policy was focused on one traumatic event rather than a series
 - expressed concern that adjudicators required events to be sudden, shocking and life threatening
 - review included police and firefighters and the police and fire chiefs

Mental Stress Policy Review

- Reviewed many WSIAT decisions
 - including the decisions that prompted the BOD of Directors Section 126 review in Feb.2000
 - many WSIAT decisions involved clear and objective evidence of a series of traumatic events leading to a stress disorder
 - claims submitted by other female correctional officers
 - draft policy to be released week of June 4, 2001 for consultation - final policy October 2001

KF 3615 C47 O57 2000c c.1

Chronic pain initiative : report of the Chair
of the Chronic Pain Panels

KF 3615 C47 O57 2000c c.1

Chronic pain initiative : report of the Chair
of the Chronic Pain Panels

DATE DUE	BORROWER'S NAME
Feb 2002	Patrick Bowles
Nov 2005	Don Ravijs

